SEQUENCE LISTING

<110> Novartis AG
Wolfgang, Curt

<120> BIOMARKERS FOR THE PREDICTION OF DRUG-INDUCED DIARRHOEA

<130> ON/4-33391A

<150> 60/508,973
<151> 2003-10-06

<160> 19

<170> FastSEQ for Windows Version 4.0

<210> 1
<211> 2187
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (104)...(1618)
<223> Human interferon regulatory factor 5 (IRF5) mRNA coding region

<400> 1
gcggcgggag gcgcagcctg ggcagagctc agcttggtcc cgccgcccgg ccggtgctcc 60
ctggcgcagc cacgcaggcg caccgcagac agacccctct gcc atg aac cag tcc 115
Met Asn Gln Ser
1

atc cca gtg gct ccc acc cca ccc cgc cgc gtg cgg ctg aag ccc tgg 163
Ile Pro Val Ala Pro Thr Pro Pro Arg Arg Val Arg Leu Lys Pro Trp
5 10 15 20

ctg gtg gcc cag gtg aac agc tgc cag tac cca ggg ctt caa tgg gtc 211
Leu Val Ala Gln Val Asn Ser Cys Gln Tyr Pro Gly Leu Gln Trp Val
25 30 35

aac ggg gaa aag aaa tta ttc tgc atc ccc tgg agg cat gcc aca agg 259
Asn Gly Glu Lys Lys Leu Phe Cys Ile Pro Trp Arg His Ala Thr Arg
40 45 50

cat ggt ccc agc cag gac gga gat aac acc atc ttc aag gcc tgg gcc 307
His Gly Pro Ser Gln Asp Gly Asp Asn Thr Ile Phe Lys Ala Trp Ala
55 60 65

aag gag aca ggg aaa tac acc gaa ggc gtg gat gaa gcc gat ccg gcc 355
Lys Glu Thr Gly Lys Tyr Thr Glu Gly Val Asp Glu Ala Asp Pro Ala
70 75 80

aag tgg aag gcc aac ctg cgc tgt gcc ctt aac aag agc cgg gac ttc 403
Lys Trp Lys Ala Asn Leu Arg Cys Ala Leu Asn Lys Ser Arg Asp Phe
85 90 95 100

cgc ctc atc tac gac ggg ccc cgg gac atg cca cct cag ccc tac aag 451
Arg Leu Ile Tyr Asp Gly Pro Arg Asp Met Pro Pro Gln Pro Tyr Lys
105 110 115

atc tac gag gtc tgc tcc aat ggc cct gct ccc aca gac tcc cag ccc 499
Ile Tyr Glu Val Cys Ser Asn Gly Pro Ala Pro Thr Asp Ser Gln Pro
120 125 130

```
cct gag gat tac tct ttt ggt gca gga gag gag gag gaa gaa gag gaa   547
Pro Glu Asp Tyr Ser Phe Gly Ala Gly Glu Glu Glu Glu Glu Glu Glu
        135                 140                 145

gag ctg cag agg atg ttg cca agc ctg agc ctc aca gat gca gtg cag   595
Glu Leu Gln Arg Met Leu Pro Ser Leu Ser Leu Thr Asp Ala Val Gln
    150                 155                 160

tct ggc ccc cac atg aca ccc tat tct tta ctc aaa gag gat gtc aag   643
Ser Gly Pro His Met Thr Pro Tyr Ser Leu Leu Lys Glu Asp Val Lys
165                 170                 175                 180

tgg ccg ccc act ctg cag ccg ccc act ctg cag ccg ccc gtg gtg ctg   691
Trp Pro Pro Thr Leu Gln Pro Pro Thr Leu Gln Pro Pro Val Val Leu
                185                 190                 195

ggt ccc cct gct cca gac ccc agc ccc ctg gct cct ccc cct ggc aac   739
Gly Pro Pro Ala Pro Asp Pro Ser Pro Leu Ala Pro Pro Pro Gly Asn
            200                 205                 210

cct gct ggc ttc agg gag ctt ctc tct gag gtc ctg gag cct ggg ccc   787
Pro Ala Gly Phe Arg Glu Leu Leu Ser Glu Val Leu Glu Pro Gly Pro
        215                 220                 225

ctg cct gcc agc ctg ccc cct gca ggc gaa cag ctc ctg cca gac ctg   835
Leu Pro Ala Ser Leu Pro Pro Ala Gly Glu Gln Leu Leu Pro Asp Leu
    230                 235                 240

ctg atc agc ccc cac atg ctg cct ctg acc gac ctg gag atc aag ttt   883
Leu Ile Ser Pro His Met Leu Pro Leu Thr Asp Leu Glu Ile Lys Phe
245                 250                 255                 260

cag tac cgg ggg cgg cca ccc cgg gcc ctc acc atc agc aac ccc cat   931
Gln Tyr Arg Gly Arg Pro Pro Arg Ala Leu Thr Ile Ser Asn Pro His
                265                 270                 275

ggc tgc cgg ctc ttc tac agc cag ctg gag gcc acc cag gag cag gtg   979
Gly Cys Arg Leu Phe Tyr Ser Gln Leu Glu Ala Thr Gln Glu Gln Val
            280                 285                 290

gaa ctc ttc ggc ccc ata agc ctg gag caa gtg cgc ttc ccc agc cct   1027
Glu Leu Phe Gly Pro Ile Ser Leu Glu Gln Val Arg Phe Pro Ser Pro
        295                 300                 305

gag gac atc ccc agt gac aag cag cgc ttc tac acg aac cag ctg ctg   1075
Glu Asp Ile Pro Ser Asp Lys Gln Arg Phe Tyr Thr Asn Gln Leu Leu
    310                 315                 320

gat gtc ctg gac cgc ggg ctc atc ctc cag cta cag ggc cag gac ctt   1123
Asp Val Leu Asp Arg Gly Leu Ile Leu Gln Leu Gln Gly Gln Asp Leu
325                 330                 335                 340

tat gcc atc cgc ctg tgt cag tgc aag gtg ttc tgg agc ggg cct tgt   1171
Tyr Ala Ile Arg Leu Cys Gln Cys Lys Val Phe Trp Ser Gly Pro Cys
                345                 350                 355

gcc tca gcc cat gac tca tgc ccc aac ccc atc cag cgg gag gtc aag   1219
Ala Ser Ala His Asp Ser Cys Pro Asn Pro Ile Gln Arg Glu Val Lys
            360                 365                 370

acc aag ctt ttc agc ctg gag cat ttt ctc aat gag ctc atc ctg ttc   1267
Thr Lys Leu Phe Ser Leu Glu His Phe Leu Asn Glu Leu Ile Leu Phe
        375                 380                 385

caa aag ggc cag acc aac acc cca cca ccc ttc gag atc ttc ttc tgc   1315
Gln Lys Gly Gln Thr Asn Thr Pro Pro Pro Phe Glu Ile Phe Phe Cys
    390                 395                 400
```

```
ttt ggg gaa gaa tgg cct gac cgc aaa ccc cga gag aag aag ctc att   1363
Phe Gly Glu Glu Trp Pro Asp Arg Lys Pro Arg Glu Lys Lys Leu Ile
405                 410                 415                 420

act gta cag gtg gtg cct gta gca gct cga ctg ctg ctg gag atg ttc   1411
Thr Val Gln Val Val Pro Val Ala Ala Arg Leu Leu Leu Glu Met Phe
            425                 430                 435

tca ggg gag cta tct tgg tca gct gat agt atc cgg cta cag atc tca   1459
Ser Gly Glu Leu Ser Trp Ser Ala Asp Ser Ile Arg Leu Gln Ile Ser
        440                 445                 450

aac cca gac ctc aaa gac cgc atg gtg gag caa ttc aag gag ctc cat   1507
Asn Pro Asp Leu Lys Asp Arg Met Val Glu Gln Phe Lys Glu Leu His
    455                 460                 465

cac atc tgg cag tcc cag cag cgg ttg cag cct gtg gcc cag gcc cct   1555
His Ile Trp Gln Ser Gln Gln Arg Leu Gln Pro Val Ala Gln Ala Pro
470                 475                 480

cct gga gca ggc ctt ggt gtt ggc cag ggg ccc tgg cct atg cac cca   1603
Pro Gly Ala Gly Leu Gly Val Gly Gln Gly Pro Trp Pro Met His Pro
485                 490                 495                 500

gct ggc atg caa taa caaggctgca gacggtgact ggccctggct tcctgggtgg   1658
Ala Gly Met Gln  *

cggtgcggac tgatgtggag atgtgacagc cccgatgagc acctggctgg ctgcagggtc 1718
ctacctctgg gtttcctgga agtggatttg ggccaagaag gagagggaga aaggcccgag 1778
cccctgcctt cccgggcctt tctctcctgg gctgtctctg gtctggtcag cctggctctc 1838
gggaaattca gccatgagca gggaaagaac tctcccaacc ctggggccta gctgtatagg 1898
aggaattgcc taagggtggc ccactcttgt gattgcccca tttcctctgg caacaaaagc 1958
cagagtgttg tgggccaagt ccccccacag ggcctctgca gggcatggcc ctgatttccc 2018
tggtttgaga ctcacttcct catctccctg tcctctgaga taatatgagt gagcacttag 2078
gtatcatatc agatgctcaa ggctggcagc taccccttc ttgagagtcc aagaacctgg 2138
agcagaaata atttttatgt atttttggat taataaatgt taaaaacag             2187

<210> 2
<211> 1462
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (200)...(910)
<223> Human cell division cycle 34 (CDC34) mRNA coding
      region

<400> 2
ggcaagcgcc ggtggggcgg cggcgccaga gctgctggag cgctcggggt ccccgggcgg 60
cggcggcggc gcagaggagg aggcaggcgg cggccccggt ggctcccccc cggacggtgc 120
gcggcccggc ccgtctcgcg aactcgcggt ggtcgcgcgg ccccgcgctg ctccgacccc 180
gggcccctcc gccgccgcc atg gct cgg ccg cta gtg ccc agc tcg cag aag  232
                    Met Ala Arg Pro Leu Val Pro Ser Ser Gln Lys
                     1               5                  10

gcg ctg ctg ctg gag ctc aag ggg ctg cag gaa gag ccg gtc gag gga   280
Ala Leu Leu Leu Glu Leu Lys Gly Leu Gln Glu Glu Pro Val Glu Gly
            15                  20                  25

ttc cgc gtg aca ctg gtg gac gag ggc gat cta tac aac tgg gag gtg   328
Phe Arg Val Thr Leu Val Asp Glu Gly Asp Leu Tyr Asn Trp Glu Val
        30                  35                  40

gcc atc ttc ggg ccc ccc aac acc tac tac gag ggc ggc tac ttc aag   376
Ala Ile Phe Gly Pro Pro Asn Thr Tyr Tyr Glu Gly Gly Tyr Phe Lys
    45                  50                  55
```

```
gcg cgc ctc aag ttc ccc atc gac tac cca tac tct cca cca gcc ttt   424
Ala Arg Leu Lys Phe Pro Ile Asp Tyr Pro Tyr Ser Pro Pro Ala Phe
 60                  65                  70                  75

cgg ttc ctg acc aag atg tgg cac cct aac atc tac gag acg ggg gac   472
Arg Phe Leu Thr Lys Met Trp His Pro Asn Ile Tyr Glu Thr Gly Asp
                 80                  85                  90

gtg tgt atc tcc atc ctc cac ccg ccg gtg gac gac ccc cag agc ggg   520
Val Cys Ile Ser Ile Leu His Pro Pro Val Asp Asp Pro Gln Ser Gly
            95                 100                 105

gag ctg ccc tca gag agg tgg aac ccc acg cag aac gtc agg acc att   568
Glu Leu Pro Ser Glu Arg Trp Asn Pro Thr Gln Asn Val Arg Thr Ile
        110                 115                 120

ctc ctg agt gtg atc tcc ctc ctg aac gag ccc aac acc ttc tcg ccc   616
Leu Leu Ser Val Ile Ser Leu Leu Asn Glu Pro Asn Thr Phe Ser Pro
    125                 130                 135

gca aac gtg gac gcc tcc gtg atg tac agg aag tgg aaa gag agc aag   664
Ala Asn Val Asp Ala Ser Val Met Tyr Arg Lys Trp Lys Glu Ser Lys
140                 145                 150                 155

ggg aag gat cgg gag tac aca gac atc atc cgg aag cag gtc ctg ggg   712
Gly Lys Asp Arg Glu Tyr Thr Asp Ile Ile Arg Lys Gln Val Leu Gly
                160                 165                 170

acc aag gtg gac gcg gag cgt gac ggc gtg aag gtg ccc acc acg ctg   760
Thr Lys Val Asp Ala Glu Arg Asp Gly Val Lys Val Pro Thr Thr Leu
            175                 180                 185

gcc gag tac tgc gtg aag acc aag gcg ccg gcg ccc gac gag ggc tca   808
Ala Glu Tyr Cys Val Lys Thr Lys Ala Pro Ala Pro Asp Glu Gly Ser
        190                 195                 200

gac ctc ttc tac gac gac tac tac gag gac ggc gag gtg gag gag gag   856
Asp Leu Phe Tyr Asp Asp Tyr Tyr Glu Asp Gly Glu Val Glu Glu Glu
    205                 210                 215

gcc gac agc tgc ttc ggg gac gat gag gat gac tct ggc acg gag gag   904
Ala Asp Ser Cys Phe Gly Asp Asp Glu Asp Asp Ser Gly Thr Glu Glu
220                 225                 230                 235

tcc tga caccaccaga ataaacttgc cgagtttacc tcactagggc cggacccgtg   960
Ser  *

gctccttaga cgacagacta cctcacggag gttttgtgct ggtccccgtc tcctctggtt 1020
gtttcgtttt ggctttttct ccctccccat gtctgttctg ggttttcacg tgcttcagag 1080
aagaggggct gccccaccgc cactcacgtc actcggggct cggtggacgg gcccagggtg 1140
ggagcggccg gcccacctgt cccctcggga ggggagctga gcccgacttc taccggggtc 1200
ccccagcttc cggactggcc gcaccccgga ggagccacgg gggcgctgct gggaacgtgg 1260
gcgggggcc gtttcctgac actaccagcc tgggaggccc aggtgtagcg gtccgagggg 1320
cccggtcctg cctgtcagct ccaggtcctg gagccacgtc cagcacagag tggacggatt 1380
caccgtggcc gactcttttc cctgctttgg tttgtttgaa atctaaataa aactacttta 1440
tgagaaaaaa aaaaaaaaaa aa                                          1462

<210> 3
<211> 3505
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (125)...(784)
<223> Human BCL2/adenovirus E1B 19kDa interacting
```

seqlist.txt

protein 3-like (BNIP3L) mRNA coding region

<400> 3

```
cgtcaggggc aggggaggga cggcgcaggc gcagaaaagg gggcggcgga ctcggcttgt 60
tgtgttgctg cctgagtgcc ggagacggtc ctgctgctgc cgcagtcctg ccagctgtcc 120
gaca atg tcg tcc cac cta gtc gag ccg ccg ccg ccc ctg cac aac aac  169
     Met Ser Ser His Leu Val Glu Pro Pro Pro Pro Leu His Asn Asn
      1               5                  10                  15

aac aac aac tgc gag gaa aat gag cag tct ctg ccc ccg ccg gcc ggc   217
Asn Asn Asn Cys Glu Glu Asn Glu Gln Ser Leu Pro Pro Pro Ala Gly
                  20                  25                  30

ctc aac agt tcc tgg gtg gag cta ccc atg aac agc agc aat ggc aat   265
Leu Asn Ser Ser Trp Val Glu Leu Pro Met Asn Ser Ser Asn Gly Asn
              35                  40                  45

gat aat ggc aat ggg aaa aat ggg ggg ctg gaa cac gta cca tcc tca   313
Asp Asn Gly Asn Gly Lys Asn Gly Gly Leu Glu His Val Pro Ser Ser
          50                  55                  60

tcc tcc atc cac aat gga gac atg gag aag att ctt ttg gat gca caa   361
Ser Ser Ile His Asn Gly Asp Met Glu Lys Ile Leu Leu Asp Ala Gln
      65                  70                  75

cat gaa tca gga cag agt agt tcc aga ggc agt tct cac tgt gac agc   409
His Glu Ser Gly Gln Ser Ser Ser Arg Gly Ser Ser His Cys Asp Ser
  80                  85                  90                  95

cct tcg cca caa gaa gat ggg cag atc atg ttt gat gtg gaa atg cac   457
Pro Ser Pro Gln Glu Asp Gly Gln Ile Met Phe Asp Val Glu Met His
                 100                 105                 110

acc agc agg gac cat agc tct cag tca gaa gaa gaa gtt gta gaa gga   505
Thr Ser Arg Asp His Ser Ser Gln Ser Glu Glu Glu Val Val Glu Gly
             115                 120                 125

gag aag gaa gtc gag gct ttg aag aaa agt gcg gac tgg gta tca gac   553
Glu Lys Glu Val Glu Ala Leu Lys Lys Ser Ala Asp Trp Val Ser Asp
         130                 135                 140

tgg tcc agt aga ccc gaa aac att cca ccc aag gag ttc cac ttc aga   601
Trp Ser Ser Arg Pro Glu Asn Ile Pro Pro Lys Glu Phe His Phe Arg
     145                 150                 155

cac cct aaa cgt tct gtg tct tta agc atg agg aaa agt gga gcc atg   649
His Pro Lys Arg Ser Val Ser Leu Ser Met Arg Lys Ser Gly Ala Met
160                 165                 170                 175

aag aaa ggg ggt att ttc tcc gca gaa ttt ctg aag gtg ttc att cca   697
Lys Lys Gly Gly Ile Phe Ser Ala Glu Phe Leu Lys Val Phe Ile Pro
                 180                 185                 190

tct ctc ttc ctt tct cat gtt ttg gct ttg ggg cta ggc atc tat att   745
Ser Leu Phe Leu Ser His Val Leu Ala Leu Gly Leu Gly Ile Tyr Ile
             195                 200                 205

gga aag cga ctg agc aca ccc tct gcc agc acc tac tga gggaaaggaa    794
Gly Lys Arg Leu Ser Thr Pro Ser Ala Ser Thr Tyr  *
         210                 215

aagcccctgg aaatgcgtgt gacctgtgaa gtggtgtatt gtcacagtag cttatttgaa 854
cttgagacca ttgtaagcat gacccaacct accaccctgt ttttacatat ccaattccag 914
taactctcaa attcaatatt ttattcaaac tctgttgagg cattttacta accttatacc 974
ctttttggcc tgaagacatt ttagaatttc ctaacagagt ttactgttgt ttagaaattt 1034
gcaagggctt cttttccgca aatgccacca gcagattata attttgtcag caatgctatt 1094
atctctaatt agtgccacca gactagacct gtatcattca tggtataaat tttactcttg 1154
caacataact accatctctc tcttaaaacg agatcaggtt agcaaatgat gtaaaagaag 1214
```

ctttattgtc tagttgtttt ttttccccca agacaaaggc aagtttccct aagtttgagt 1274
tgatagttat taaaaagaaa acaaaacaaa aaaaaaaggc aaggcacaac aaaaaaatat 1334
cctgggcaat aaaaaaaata ttttaaacca gctttggagc cacttttttg tctaagcctc 1394
ctaatagcgt cttttaattt ataggaggca aactgtataa atgataggta tgaaatagaa 1454
taagaagtaa aatacatcag cagattttca tactagtatg ttgtaatgct gtcttttcta 1514
tggtgtagaa tctttctttc tgataaggaa cgtctcaggc ttagaaatat atgaaattgc 1574
tttttgagat ttttgcgtgt gtgtttgata ttttttacga taattagctg catgtgaatt 1634
tttcatgacc ttctttacat tttttatttt ttatttcttt attttttttt ctctaagaag 1694
aggctttgga atgagttcca atttgtgatg ttaatacagg cttcttgttt taggaagcat 1754
cacctatact ctgaagcctt taaactctga agagaattgt ttcagagtta ttccaagcac 1814
ttgtgcaact tggaaaaaca gacttgggtt gtgggaacag ttgacagcgt tctgaaaaga 1874
tgccatttgt ttccttctga tctctcactg aataatgttt actgtacagt cttcccaagg 1934
tgattcctgc gactgcaggc actggtcatt ttctcatgta gctgtctttt cagttatggt 1994
aaactcttaa agttcagaac actcaacaga ttccttcagt gatatacttg ttcgttcatt 2054
tctaaaatgt gaagctttag gaccaaattg ttagaaagca tcaggatgac cagttatctc 2114
gagtagattt tcttggattt cagaacatct agcatgactc tgaaggatac cacatgtttt 2174
atatataaat aattactgtt tatgatatag acattgatat tgactattta gagaaccgtt 2234
gttaatttta aaactagcaa tctataaagt gcaccaggtc aacttgaata aaaacactat 2294
gacagacagg tttgccagtt tgcagaaact aactcttttc tcacatcaac atttgtaaaa 2354
ttgatgtgtt atagtggaaa ataacatata gattaaacaa aatttttatc ttttttcaag 2414
aatatagctg gctatcttta agaaagatga tatatcctag ttttgaaagt aattttcttt 2474
tttctttcta gcatttgatg tctaaataat tttggacatc tttttcctag accatgtttc 2534
tgtcttactc ttaaacctgg taacacttga tttgccttct ataacctatt tatttcaagt 2594
gttcatattt gaatttcttt gggaagaaag taaatctgat ggctcactga tttttgaaaa 2654
gcctgaataa aattggaaag actggaaagt taggagaact gactagctaa actgctacag 2714
tatgcaattt ctattacaat tggtattaca ggggggaaaa gtaaaattac actttacctg 2774
aaagtgactt cttacagcta gtgcattgtg ctctttccaa gttcagcagc agttctatca 2834
gtggtgccac tgaaactggg tatatttatg atttctttca gcgttaaaaa gaaacatagt 2894
gttgcccttt ttcttaaagc atcagtgaaa ttatggaaaa ttacttaaaa cgtgaataca 2954
tcatcacagt agaatttatt atgagagcat gtagtatgta tctgtagccc taacacatgg 3014
gatgaacgtt ttactgctac acccagattt gtgttgaacg aaaacattgt ggtttggaaa 3074
ggagaattca acaattaata gttgaaattg tgaggttaat gtttaaaaag ctttacacct 3134
gtttacaatt tggggacaaa aaggcaggct tcatttttca tatgtttgat gaaaactggc 3194
tcaagatgtt tgtaaataga atcaagagca aaactgcaca aacttgcaca ttggaaagtg 3254
caacaagttc ccgtgattgc agtaaaaata tttactattc taaaaaaatg agaattgaag 3314
acttagccag tcagataagt tttttcatga acccgttgtg gaaattattg gaattaactg 3374
agccaaagtg attatgcatt cttcatctat tttagttagc actttgtatc gttatataca 3434
gtttacaata catgtataac ttgtagctat aaacattttg tgccattaaa gctctcacaa 3494
aactttaaaa a 3505

<210> 4
<211> 1441
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (1)...(1314)

<400> 4
cag gct ggt caa tgt ggc aac cag atc ggt gcc aag ttc tgg gag gtg 48
Gln Ala Gly Gln Cys Gly Asn Gln Ile Gly Ala Lys Phe Trp Glu Val
1 5 10 15

atc agt gat gaa cat ggc atc gac ccc acc ggc acc tac cac ggg gac 96
Ile Ser Asp Glu His Gly Ile Asp Pro Thr Gly Thr Tyr His Gly Asp
20 25 30

agc gac ctg cag ctg gac cgc atc tct gtg tac tac aat gaa gcc aca 144
Ser Asp Leu Gln Leu Asp Arg Ile Ser Val Tyr Tyr Asn Glu Ala Thr
35 40 45

ggt ggc aaa tat gtt cct cgt gcc atc ctg gtg gat cta gaa cct ggg 192
Gly Gly Lys Tyr Val Pro Arg Ala Ile Leu Val Asp Leu Glu Pro Gly
50 55 60

acc atg gac tct gtt cgc tca ggt cct ttt ggc cag atc ttt aga cca 240
Thr Met Asp Ser Val Arg Ser Gly Pro Phe Gly Gln Ile Phe Arg Pro

```
65                  70                  75                  80

gac aac ttt gta ttt ggt cag tct ggg gca ggt aac aac tgg gcc aaa   288
Asp Asn Phe Val Phe Gly Gln Ser Gly Ala Gly Asn Asn Trp Ala Lys
                85                  90                  95

ggc cac tac aca gag ggc gcc gag ctg gtt gat tct gtc ctg gat gtg   336
Gly His Tyr Thr Glu Gly Ala Glu Leu Val Asp Ser Val Leu Asp Val
            100                 105                 110

gta cgg aag gag gca gag agc tgt gac tgc ctg cag ggc ttc cag ctg   384
Val Arg Lys Glu Ala Glu Ser Cys Asp Cys Leu Gln Gly Phe Gln Leu
        115                 120                 125

acc cac tca ctg ggc ggg ggc aca ggc tct gga atg ggc act ctc ctt   432
Thr His Ser Leu Gly Gly Gly Thr Gly Ser Gly Met Gly Thr Leu Leu
    130                 135                 140

atc agc aag atc cga gaa gaa tac cct gat cgc atc atg aat acc ttc   480
Ile Ser Lys Ile Arg Glu Glu Tyr Pro Asp Arg Ile Met Asn Thr Phe
145                 150                 155                 160

agt gtg gtg cct tca ccc aaa gtg tct gac acc gtg gtc gag ccc tac   528
Ser Val Val Pro Ser Pro Lys Val Ser Asp Thr Val Val Glu Pro Tyr
                165                 170                 175

aat gcc acc ctc tcc gtc cat cag ttg gta gag aat act gat gag acc   576
Asn Ala Thr Leu Ser Val His Gln Leu Val Glu Asn Thr Asp Glu Thr
            180                 185                 190

tat tgc att gac aac gag gcc ctc tat gat atc tgc ttc cgc act ctg   624
Tyr Cys Ile Asp Asn Glu Ala Leu Tyr Asp Ile Cys Phe Arg Thr Leu
        195                 200                 205

agg ctg acc aca cca acc tac ggg gat ctg aac cac ctt gtc tca ggc   672
Arg Leu Thr Thr Pro Thr Tyr Gly Asp Leu Asn His Leu Val Ser Gly
    210                 215                 220

acc atg gag tgt gtc acc acc tgc ctc cgt ttc cct ggc cag ctc aat   720
Thr Met Glu Cys Val Thr Thr Cys Leu Arg Phe Pro Gly Gln Leu Asn
225                 230                 235                 240

gct gac ctc cgc aag ttg gca gtc aac atg gtc ccc ttc cca cgt ctc   768
Ala Asp Leu Arg Lys Leu Ala Val Asn Met Val Pro Phe Pro Arg Leu
                245                 250                 255

cat ttc ttt atg cct ggc ttt gcc cct ctc acc agc cgt gga agc cag   816
His Phe Phe Met Pro Gly Phe Ala Pro Leu Thr Ser Arg Gly Ser Gln
            260                 265                 270

cag tat cga gct ctc aca gtg ccg gac ctc acc cag cag gtc ttc gat   864
Gln Tyr Arg Ala Leu Thr Val Pro Asp Leu Thr Gln Gln Val Phe Asp
        275                 280                 285

gcc aag aac atg atg gct gcc tgt gac ccc cgc cac ggc cga tac ctc   912
Ala Lys Asn Met Met Ala Ala Cys Asp Pro Arg His Gly Arg Tyr Leu
    290                 295                 300

acc gtg gct gct gtc ttc cgt ggt cgg atg tcc atg aag gag gtc gat   960
Thr Val Ala Ala Val Phe Arg Gly Arg Met Ser Met Lys Glu Val Asp
305                 310                 315                 320

gag cag atg ctt aac gtg cag aac aag aac agc agc tac ttt gtg gaa   1008
Glu Gln Met Leu Asn Val Gln Asn Lys Asn Ser Ser Tyr Phe Val Glu
                325                 330                 335

tgg atc ccc aac aat gtc aag aca gcc gtc tgt gac atc cca cct cgt   1056
Trp Ile Pro Asn Asn Val Lys Thr Ala Val Cys Asp Ile Pro Pro Arg
```

340 345 350

ggc ctc aag atg gca gtc acc ttc att ggc aat agc aca gcc atc cag 1104
Gly Leu Lys Met Ala Val Thr Phe Ile Gly Asn Ser Thr Ala Ile Gln
355 360 365

gag ctc ttc aag cgc atc tcg gag cag ttc act gcc atg ttc cgc cgg 1152
Glu Leu Phe Lys Arg Ile Ser Glu Gln Phe Thr Ala Met Phe Arg Arg
370 375 380

aag gcc ttc ctc cac tgg tac aca ggc gag ggc atg gac gag atg gag 1200
Lys Ala Phe Leu His Trp Tyr Thr Gly Glu Gly Met Asp Glu Met Glu
385 390 395 400

ttc acc gag gct gag agc aac atg aac gac ctc gtc tct gag tat cag 1248
Phe Thr Glu Ala Glu Ser Asn Met Asn Asp Leu Val Ser Glu Tyr Gln
405 410 415

cag tac cag gat gcc acc gca gaa gag gag gag gat ttc ggt gag gag 1296
Gln Tyr Gln Asp Ala Thr Ala Glu Glu Glu Glu Asp Phe Gly Glu Glu
420 425 430

gcc gaa gag gag gcc taa ggagagcccc catcacctca ggcttctcag 1344
Ala Glu Glu Glu Ala *
435

ttcccttagc cgtcttactc aactgccccc tttcctctcc ctcagaattt gtgtttgctg 1404
cctctatctt gtttttttgtt ttttcttctg gggggggg 1441

<210> 5
<211> 1673
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (111)...(890)
<223> Human erythrocyte 2,3-bisphosphoglycerate mutase (BPGM) mRNA coding region

<400> 5
ggaggagcgg ctgctgctgc tgctgctgct gctggtggcc cctttgcaga tgtattgctg 60
tccttgaata ttagcccatt tgaaaacgcc tgggaagttc agccatcagt atg tcc 116
Met Ser
1

aag tac aaa ctt att atg tta aga cat gga gag ggt gct tgg aat aag 164
Lys Tyr Lys Leu Ile Met Leu Arg His Gly Glu Gly Ala Trp Asn Lys
5 10 15

gag aac cgt ttt tgt agc tgg gtg gat cag aaa ctc aac agc gaa gga 212
Glu Asn Arg Phe Cys Ser Trp Val Asp Gln Lys Leu Asn Ser Glu Gly
20 25 30

atg gag gaa gct cgg aac tgt ggg aag caa ctc aaa gcg tta aac ttt 260
Met Glu Glu Ala Arg Asn Cys Gly Lys Gln Leu Lys Ala Leu Asn Phe
35 40 45 50

gag ttt gat ctt gta ttc aca tct gtc ctt aat cgg tcc att cac aca 308
Glu Phe Asp Leu Val Phe Thr Ser Val Leu Asn Arg Ser Ile His Thr
55 60 65

gcc tgg ctg atc ctg gaa gag cta ggc cag gaa tgg gtg cct gtg gaa 356
Ala Trp Leu Ile Leu Glu Glu Leu Gly Gln Glu Trp Val Pro Val Glu
70 75 80

agc tcc tgg cgt cta aat gag cgt cac tat ggg gcc ttg atc ggt ctc 404
Ser Ser Trp Arg Leu Asn Glu Arg His Tyr Gly Ala Leu Ile Gly Leu

```
          85                  90                  95

aac agg gag cag atg gct ttg aat cat ggt gaa gaa caa gtg agg ctc   452
Asn Arg Glu Gln Met Ala Leu Asn His Gly Glu Glu Gln Val Arg Leu
    100                 105                 110

tgg aga aga agc tac aat gta acc ccg cct ccc att gag gag tct cat   500
Trp Arg Arg Ser Tyr Asn Val Thr Pro Pro Pro Ile Glu Glu Ser His
115                 120                 125                 130

cct tac tac caa gaa atc tac aac gac cgg agg tat aaa gta tgc gat   548
Pro Tyr Tyr Gln Glu Ile Tyr Asn Asp Arg Arg Tyr Lys Val Cys Asp
                135                 140                 145

gtg ccc ttg gat caa ctg cca cgg tcg gaa agc tta aag gat gtt ctg   596
Val Pro Leu Asp Gln Leu Pro Arg Ser Glu Ser Leu Lys Asp Val Leu
            150                 155                 160

gag aga ctc ctt ccc tat tgg aat gaa agg att gct ccc gaa gta tta   644
Glu Arg Leu Leu Pro Tyr Trp Asn Glu Arg Ile Ala Pro Glu Val Leu
        165                 170                 175

cgt ggc aaa acc att ctg ata tct gct cat gga aat agc agt agg gca   692
Arg Gly Lys Thr Ile Leu Ile Ser Ala His Gly Asn Ser Ser Arg Ala
    180                 185                 190

ctc cta aaa cac ctg gaa ggt atc tca gat gaa gac atc atc aac att   740
Leu Leu Lys His Leu Glu Gly Ile Ser Asp Glu Asp Ile Ile Asn Ile
195                 200                 205                 210

act ctt cct act gga gtc ccc att ctt ctg gaa ttg gat gaa aac ctg   788
Thr Leu Pro Thr Gly Val Pro Ile Leu Leu Glu Leu Asp Glu Asn Leu
                215                 220                 225

cgt gct gtt ggg cct cat cag ttc ctg ggt gac caa gag gcg atc caa   836
Arg Ala Val Gly Pro His Gln Phe Leu Gly Asp Gln Glu Ala Ile Gln
            230                 235                 240

gca gcc att aag aaa gta gaa gat caa gga aaa gtg aaa caa gct aaa   884
Ala Ala Ile Lys Lys Val Glu Asp Gln Gly Lys Val Lys Gln Ala Lys
        245                 250                 255

aaa tag tctttctcaa ctgttggcta agaagaaatg caaaagaagt ggcataggag   940
Lys  *

tgtgttatgg gtgctgaact ctctctcttt ttccccgatt ttccagagct aggctgtgga 1000
gtagagtttg tataggtaac taggtaactt attgtggccc agataaggct ttaggatgcc 1060
tcagtgctta tgtcatagcc ttatgagtta gctttcttgc tagccccctа gtcggtcacc 1120
aaactagtaa ctagtggggc ttaatgaagg tcataagttt ctgagatggg agagcaacaa 1180
gtagagatga agttaaaggt atttatcatt caagaaatca ttattgagtc accaattgac 1240
aggcactatt ctaatcagta gttcacttta atatttaata agattttctg ggataacagt 1300
aagggatatt agataatata ccgtatgtat ttattactag tcttttcctc taggaaaagg 1360
gatactttga taattaaggc cagaggccca ttagttgaga aagtcacaga tatatttctc 1420
caagaaagcc aacaaccacc accacaatga cagaaatgac aacaaggccc tttaacttgt 1480
cttctagttt agagacatcc ttcatttgac atttagtaga attcctcttt ggccacaaga 1540
ataagcagca aataaacaac tatggctgtt gaggttctca ttttggtttg ttttaatttt 1600
ttgaactttg ggtacctgta attagtttaa aaataaagtt cctgataata aagtgactga 1660
aaatggcatc ccc                                                    1673

<210> 6
<211> 1941
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (53)...(1816)
```

seqlist.txt

<223> Human aminolevulinate, delta-, synthase 2 (ALAS2)
mRNA coding region

<400> 6

```
cacctgtcat tcgttcgtcc tcagtgcagg gcaacaggac tttaggttca ag atg gtg 58
                                                          Met Val
                                                           1

act gca gcc atg ctg cta cag tgc tgc cca gtg ctt gcc cgg ggc ccc   106
Thr Ala Ala Met Leu Leu Gln Cys Cys Pro Val Leu Ala Arg Gly Pro
        5                  10                  15

aca agc ctc cta ggc aag gtg gtt aag act cac cag ttc ctg ttt ggt   154
Thr Ser Leu Leu Gly Lys Val Val Lys Thr His Gln Phe Leu Phe Gly
    20                  25                  30

att gga cgc tgt ccc atc ctg gct acc caa gga cca aac tgt tct caa   202
Ile Gly Arg Cys Pro Ile Leu Ala Thr Gln Gly Pro Asn Cys Ser Gln
35                  40                  45                  50

atc cac ctt aag gca aca aag gct gga gga gat tct cca tct tgg gcg   250
Ile His Leu Lys Ala Thr Lys Ala Gly Gly Asp Ser Pro Ser Trp Ala
                55                  60                  65

aag ggc cac tgt ccc ttc atg ctg tcg gaa ctc cag gat ggg aag agc   298
Lys Gly His Cys Pro Phe Met Leu Ser Glu Leu Gln Asp Gly Lys Ser
            70                  75                  80

aag att gtg cag aag gca gcc cca gaa gtc cag gaa gat gtg aag gct   346
Lys Ile Val Gln Lys Ala Ala Pro Glu Val Gln Glu Asp Val Lys Ala
        85                  90                  95

ttc aag aca gat ctg cct agc tcc ctg gtc tca gtc agc cta agg aag   394
Phe Lys Thr Asp Leu Pro Ser Ser Leu Val Ser Val Ser Leu Arg Lys
    100                 105                 110

cca ttt tcc ggt ccc cag gag cag gag cag atc tct ggg aag gtc aca   442
Pro Phe Ser Gly Pro Gln Glu Gln Glu Gln Ile Ser Gly Lys Val Thr
115                 120                 125                 130

cac ctg att cag aac aat atg cct gga aac tat gtc ttc agt tat gac   490
His Leu Ile Gln Asn Asn Met Pro Gly Asn Tyr Val Phe Ser Tyr Asp
                135                 140                 145

cag ttt ttc agg gac aag atc atg gag aag aaa cag gat cac acc tac   538
Gln Phe Phe Arg Asp Lys Ile Met Glu Lys Lys Gln Asp His Thr Tyr
            150                 155                 160

cgt gtg ttc aag act gtg aac cgc tgg gct gat gca tat ccc ttt gcc   586
Arg Val Phe Lys Thr Val Asn Arg Trp Ala Asp Ala Tyr Pro Phe Ala
        165                 170                 175

caa cat ttc tct gag gca tct gtg gcc tca aag gat gtg tcc gtc tgg   634
Gln His Phe Ser Glu Ala Ser Val Ala Ser Lys Asp Val Ser Val Trp
    180                 185                 190

tgt agt aat gat tac ctg ggc atg agc cga cac cct cag gtc ttg caa   682
Cys Ser Asn Asp Tyr Leu Gly Met Ser Arg His Pro Gln Val Leu Gln
195                 200                 205                 210

gcc aca cag gag acc ctg cag cgt cat ggt gct gga gct ggt ggc acc   730
Ala Thr Gln Glu Thr Leu Gln Arg His Gly Ala Gly Ala Gly Gly Thr
                215                 220                 225

cgc aac atc tca ggc acc agt aag ttt cat gtg gag ctt gag cag gag   778
Arg Asn Ile Ser Gly Thr Ser Lys Phe His Val Glu Leu Glu Gln Glu
            230                 235                 240
```

```
ctg gct gag ctg cac cag aag gac tca gcc ctg ctc ttc tcc tcc tgc   826
Leu Ala Glu Leu His Gln Lys Asp Ser Ala Leu Leu Phe Ser Ser Cys
        245                 250                 255

ttt gtt gcc aat gac tct act ctc ttc acc ttg gcc aag atc ctg cca   874
Phe Val Ala Asn Asp Ser Thr Leu Phe Thr Leu Ala Lys Ile Leu Pro
    260                 265                 270

ggg tgc gag att tac tca gac gca ggc aac cat gct tcc atg atc caa   922
Gly Cys Glu Ile Tyr Ser Asp Ala Gly Asn His Ala Ser Met Ile Gln
275                 280                 285                 290

ggt atc cgt aac agt gga gca gcc aag ttt gtc ttc agg cac aat gac   970
Gly Ile Arg Asn Ser Gly Ala Ala Lys Phe Val Phe Arg His Asn Asp
                295                 300                 305

cct gac cac cta aag aaa ctt cta gag aag tct aac cct aag ata ccc   1018
Pro Asp His Leu Lys Lys Leu Leu Glu Lys Ser Asn Pro Lys Ile Pro
            310                 315                 320

aaa att gtg gcc ttt gag act gtc cac tcc atg gat ggt gcc atc tgt   1066
Lys Ile Val Ala Phe Glu Thr Val His Ser Met Asp Gly Ala Ile Cys
        325                 330                 335

ccc ctc gag gag ttg tgt gat gtg tcc cac cag tat ggg gcc ctg acc   1114
Pro Leu Glu Glu Leu Cys Asp Val Ser His Gln Tyr Gly Ala Leu Thr
    340                 345                 350

ttc gtg gat gag gtc cat gct gta gga ctg tat ggg tcc cgg ggc gct   1162
Phe Val Asp Glu Val His Ala Val Gly Leu Tyr Gly Ser Arg Gly Ala
355                 360                 365                 370

ggg att ggg gag cgt gat gga att atg cat aag att gac atc atc tct   1210
Gly Ile Gly Glu Arg Asp Gly Ile Met His Lys Ile Asp Ile Ile Ser
                375                 380                 385

gga act ctt ggc aag gcc ttt ggc tgt gtg ggc ggc tac att gcc agc   1258
Gly Thr Leu Gly Lys Ala Phe Gly Cys Val Gly Gly Tyr Ile Ala Ser
            390                 395                 400

acc cgt gac ttg gtg gac atg gtg cgc tcc tat gct gca ggc ttc atc   1306
Thr Arg Asp Leu Val Asp Met Val Arg Ser Tyr Ala Ala Gly Phe Ile
        405                 410                 415

ttt acc act tct ctg ccc ccc atg gtg ctc tct gga gct cta gaa tct   1354
Phe Thr Thr Ser Leu Pro Pro Met Val Leu Ser Gly Ala Leu Glu Ser
    420                 425                 430

gtg cgg ctg ctc aag gga gag gag ggc caa gcc ctg agg cga gcc cac   1402
Val Arg Leu Leu Lys Gly Glu Glu Gly Gln Ala Leu Arg Arg Ala His
435                 440                 445                 450

cag cgc aat gtc aag cac atg cgc cag cta ctc atg gac agg ggc ctt   1450
Gln Arg Asn Val Lys His Met Arg Gln Leu Leu Met Asp Arg Gly Leu
                455                 460                 465

cct gtc atc ccc tgc ccc agc cac atc atc ccc atc cgg gtg ggc aat   1498
Pro Val Ile Pro Cys Pro Ser His Ile Ile Pro Ile Arg Val Gly Asn
            470                 475                 480

gca gca ctc aac agc aag ctc tgt gat ctc ctg ctc tcc aag cat ggc   1546
Ala Ala Leu Asn Ser Lys Leu Cys Asp Leu Leu Leu Ser Lys His Gly
        485                 490                 495

atc tat gtg cag gcc atc aac tac cca act gtc ccc cgg ggt gaa gag   1594
Ile Tyr Val Gln Ala Ile Asn Tyr Pro Thr Val Pro Arg Gly Glu Glu
    500                 505                 510
```

```
ctc ctg cgc ttg gca ccc tcc ccc cac cac agc cct cag atg atg gaa   1642
Leu Leu Arg Leu Ala Pro Ser Pro His His Ser Pro Gln Met Met Glu
515                 520                 525                 530

gat ttt gtg gag aag ctg ctg ctg gct tgg act gcg gtg ggg ctg ccc   1690
Asp Phe Val Glu Lys Leu Leu Leu Ala Trp Thr Ala Val Gly Leu Pro
                535                 540                 545

ctc cag gat gtg tct gtg gct gcc tgc aat ttc tgt cgc cgt cct gta   1738
Leu Gln Asp Val Ser Val Ala Ala Cys Asn Phe Cys Arg Arg Pro Val
            550                 555                 560

cac ttt gag ctc atg agt gag tgg gaa cgt tcc tac ttc ggg aac atg   1786
His Phe Glu Leu Met Ser Glu Trp Glu Arg Ser Tyr Phe Gly Asn Met
        565                 570                 575

ggg ccc cag tat gtc acc acc tat gcc tga gaagccagct gcctaggatt     1836
Gly Pro Gln Tyr Val Thr Thr Tyr Ala  *
    580                 585

cacaccccac ctgcgcttca cttgggtcca ggcctactcc tgtcttctgc tttgttgtgt 1896
gcctctagct gaattgagcc taaaaataaa gcacaaacca cagca                 1941

<210> 7
<211> 1721
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (48)...(1466)
<223> Human selenium binding protein 1 (SELENBP1) mRNA
      coding region

<400> 7
caccagcaca gcaaacccgc cgggatcaaa gtgtaccagt cggcagc atg gct acg   56
                                                    Met Ala Thr
                                                     1

aaa tgt ggg aat tgt gga ccc ggc tac tcc acc cct ctg gag gcc atg   104
Lys Cys Gly Asn Cys Gly Pro Gly Tyr Ser Thr Pro Leu Glu Ala Met
     5                  10                  15

aaa gga ccc agg gaa gag atc gtc tac ctg ccc tgc att tac cga aac   152
Lys Gly Pro Arg Glu Glu Ile Val Tyr Leu Pro Cys Ile Tyr Arg Asn
 20                  25                  30                  35

aca ggc act gag gcc cca gat tat ctg gcc act gtg gat gtt gac ccc   200
Thr Gly Thr Glu Ala Pro Asp Tyr Leu Ala Thr Val Asp Val Asp Pro
                40                  45                  50

aag tct ccc cag tat tgc cag gtc atc cac cgg ctg ccc atg ccc aac   248
Lys Ser Pro Gln Tyr Cys Gln Val Ile His Arg Leu Pro Met Pro Asn
            55                  60                  65

ctg aag gac gag ctg cat cac tca gga tgg aac acc tgc agc agc tgc   296
Leu Lys Asp Glu Leu His His Ser Gly Trp Asn Thr Cys Ser Ser Cys
        70                  75                  80

ttc ggt gat agc acc aag tcg cgc acc aag ctg gtg ctg ccc agt ctc   344
Phe Gly Asp Ser Thr Lys Ser Arg Thr Lys Leu Val Leu Pro Ser Leu
     85                  90                  95

atc tcc tct cgc atc tat gtg gtg gac gtg ggc tct gag ccc cgg gcc   392
Ile Ser Ser Arg Ile Tyr Val Val Asp Val Gly Ser Glu Pro Arg Ala
100                 105                 110                 115

cca aag ctg cac aag gtc att gag ccc aag gac atc cat gcc aag tgc   440
```

```
Pro Lys Leu His Lys Val Ile Glu Pro Lys Asp Ile His Ala Lys Cys
                120                 125                 130

gaa ctg gcc ttt ctc cac acc agc cac tgc ctg gcc agc ggg gaa gtg   488
Glu Leu Ala Phe Leu His Thr Ser His Cys Leu Ala Ser Gly Glu Val
            135                 140                 145

atg atc agc tcc ctg gga gac gtc aag ggc aat ggc aaa ggg ggt ttt   536
Met Ile Ser Ser Leu Gly Asp Val Lys Gly Asn Gly Lys Gly Gly Phe
        150                 155                 160

gtg ctg ctg gat ggg gag acg ttc gag gtg aag ggg aca tgg gag aga   584
Val Leu Leu Asp Gly Glu Thr Phe Glu Val Lys Gly Thr Trp Glu Arg
    165                 170                 175

cct ggg ggt gct gca ccg ttg ggc tat gac ttc tgg tac cag cct cga   632
Pro Gly Gly Ala Ala Pro Leu Gly Tyr Asp Phe Trp Tyr Gln Pro Arg
180                 185                 190                 195

cac aat gtc atg atc agc act gag tgg gca gct ccc aat gtc tta cga   680
His Asn Val Met Ile Ser Thr Glu Trp Ala Ala Pro Asn Val Leu Arg
                200                 205                 210

gat ggc ttc aac ccc gct gat gtg gag gct gga ctg tac ggg agc cac   728
Asp Gly Phe Asn Pro Ala Asp Val Glu Ala Gly Leu Tyr Gly Ser His
            215                 220                 225

tta tat gta tgg gac tgg cag cgc cat gag att gtg cag acc ctg tct   776
Leu Tyr Val Trp Asp Trp Gln Arg His Glu Ile Val Gln Thr Leu Ser
        230                 235                 240

cta aaa gat ggg ctt att ccc ttg gag atc cgc ttc ctg cac aac cca   824
Leu Lys Asp Gly Leu Ile Pro Leu Glu Ile Arg Phe Leu His Asn Pro
    245                 250                 255

gac gct gcc caa ggc ttt gtg ggc tgc gca ctc agc tcc acc atc cag   872
Asp Ala Ala Gln Gly Phe Val Gly Cys Ala Leu Ser Ser Thr Ile Gln
260                 265                 270                 275

cgc ttc tac aag aac gag gga ggt aca tgg tca gtg gag aag gtg atc   920
Arg Phe Tyr Lys Asn Glu Gly Gly Thr Trp Ser Val Glu Lys Val Ile
                280                 285                 290

cag gtg ccc ccc aag aaa gtg aag ggc tgg ctg ctg ccc gaa atg cca   968
Gln Val Pro Pro Lys Lys Val Lys Gly Trp Leu Leu Pro Glu Met Pro
            295                 300                 305

ggc ctg atc acc gac atc ctg ctc tcc ctg gac gac cgc ttc ctc tac  1016
Gly Leu Ile Thr Asp Ile Leu Leu Ser Leu Asp Asp Arg Phe Leu Tyr
        310                 315                 320

ttc agc aac tgg ctg cat ggg gac ctg agg cag tat gac atc tct gac  1064
Phe Ser Asn Trp Leu His Gly Asp Leu Arg Gln Tyr Asp Ile Ser Asp
    325                 330                 335

cca cag aga ccc cgc ctc aca gga cag ctc ttc ctc gga ggc agc att  1112
Pro Gln Arg Pro Arg Leu Thr Gly Gln Leu Phe Leu Gly Gly Ser Ile
340                 345                 350                 355

gtt aag gga ggc cct gtg caa gtg ctg gag gac gag gaa cta aag tcc  1160
Val Lys Gly Gly Pro Val Gln Val Leu Glu Asp Glu Glu Leu Lys Ser
                360                 365                 370

cag cca gag ccc cta gtg gtc aag gga aaa cgg gtg gct gga ggc cct  1208
Gln Pro Glu Pro Leu Val Val Lys Gly Lys Arg Val Ala Gly Gly Pro
            375                 380                 385

cag atg atc cag ctc agc ctg gat ggg aag cgc ctc tac atc acc acg  1256
```

```
Gln Met Ile Gln Leu Ser Leu Asp Gly Lys Arg Leu Tyr Ile Thr Thr
        390                 395                 400

tcg ctg tac agt gcc tgg gac aag cag ttt tac cct gat ctc atc agg   1304
Ser Leu Tyr Ser Ala Trp Asp Lys Gln Phe Tyr Pro Asp Leu Ile Arg
    405                 410                 415

gaa ggc tct gtg atg ctg cag gtt gat gta gac aca gta aaa gga ggg   1352
Glu Gly Ser Val Met Leu Gln Val Asp Val Asp Thr Val Lys Gly Gly
420                 425                 430                 435

ctg aag ttg aac ccc aac ttc ctg gtg gac ttc ggg aag gag ccc ctt   1400
Leu Lys Leu Asn Pro Asn Phe Leu Val Asp Phe Gly Lys Glu Pro Leu
                440                 445                 450

ggc cca gcc ctt gcc cat gag ctc cgc tac cct ggg ggc gat tgt agc   1448
Gly Pro Ala Leu Ala His Glu Leu Arg Tyr Pro Gly Gly Asp Cys Ser
            455                 460                 465

tct gac atc tgg att tga actccaccct catcacccac actccctatt          1496
Ser Asp Ile Trp Ile  *
        470

ttgggccctc acttccttgg ggacctggct tcattctgct ctctcttggc acccgaccct 1556
tggcagcatg taccacacag ccaagctgag actgtggcaa tgtgttgagt catatacatt 1616
tactgaccac tgttgcttgt tgctcactgt gctgctttc catgagctct tggaggcacc 1676
aagaaataaa ctcgtaaccc tgtccttcaa aaaaaaaaaa aaaaa                  1721

<210> 8
<211> 3637
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (115)...(2850)
<223> Human solute carrier family 4, anion exchanger,
      member 1 (erythrocyte membrane protein band 3,
      Diego blood group) (SLC4A1) mRNA coding region

<400> 8
cagcggctgc aggacttcac caagggaccc tgaggctcgt gagcagggac ccgcggtgcg 60
ggttatgctg ggggctcaga tcaccgtaga caactggaca ctcaggacca cgcc atg   117
                                                          Met
                                                           1

gag gag ctg cag gat gat tat gaa gac atg atg gag gag aat ctg gag   165
Glu Glu Leu Gln Asp Asp Tyr Glu Asp Met Met Glu Glu Asn Leu Glu
            5                  10                  15

cag gag gaa tat gaa gac cca gac atc ccc gag tcc cag atg gag gag   213
Gln Glu Glu Tyr Glu Asp Pro Asp Ile Pro Glu Ser Gln Met Glu Glu
        20                  25                  30

ccg gca gct cac gac acc gag gca aca gcc aca gac tac cac acc aca   261
Pro Ala Ala His Asp Thr Glu Ala Thr Ala Thr Asp Tyr His Thr Thr
    35                  40                  45

tca cac ccg ggt acc cac aag gtc tat gtg gag ctg cag gag ctg gtg   309
Ser His Pro Gly Thr His Lys Val Tyr Val Glu Leu Gln Glu Leu Val
50                  55                  60                  65

atg gac gaa aag aac cag gag ctg aga tgg atg gag gcg gcg cgc tgg   357
Met Asp Glu Lys Asn Gln Glu Leu Arg Trp Met Glu Ala Ala Arg Trp
                70                  75                  80

gtg caa ctg gag gag aac ctg ggg gag aat ggg gcc tgg ggc cgc ccg   405
Val Gln Leu Glu Glu Asn Leu Gly Glu Asn Gly Ala Trp Gly Arg Pro
```

85 90 95

cac ctc tct cac ctc acc ttc tgg agc ctc cta gag ctg cgt aga gtc 453
His Leu Ser His Leu Thr Phe Trp Ser Leu Leu Glu Leu Arg Arg Val
100 105 110

ttc acc aag ggt act gtt ctc cta gac ctg caa gag acc tcc ctg gct 501
Phe Thr Lys Gly Thr Val Leu Leu Asp Leu Gln Glu Thr Ser Leu Ala
115 120 125

gga gtg gcc aac caa ctg cta gac agg ttt atc ttt gaa gac cag atc 549
Gly Val Ala Asn Gln Leu Leu Asp Arg Phe Ile Phe Glu Asp Gln Ile
130 135 140 145

cgg cct cag gac cga gag gag ctg ctc cgg gcc ctg ctg ctt aaa cac 597
Arg Pro Gln Asp Arg Glu Glu Leu Leu Arg Ala Leu Leu Leu Lys His
150 155 160

agc cac gct gga gag ctg gag gcc ctg ggg ggt gtg aag cct gca gtc 645
Ser His Ala Gly Glu Leu Glu Ala Leu Gly Gly Val Lys Pro Ala Val
165 170 175

ctg aca cgc tct ggg gat cct tca cag cct ctg ctc ccc caa cac tcc 693
Leu Thr Arg Ser Gly Asp Pro Ser Gln Pro Leu Leu Pro Gln His Ser
180 185 190

tca ctg gag aca cag ctc ttc tgt gag cag gga gat ggg ggc aca gaa 741
Ser Leu Glu Thr Gln Leu Phe Cys Glu Gln Gly Asp Gly Gly Thr Glu
195 200 205

ggg cac tca cca tct gga att ctg gaa aag att ccc ccg gat tca gag 789
Gly His Ser Pro Ser Gly Ile Leu Glu Lys Ile Pro Pro Asp Ser Glu
210 215 220 225

gcc acg ttg gtg cta gtg ggc cgc gcc gac ttc ctg gag cag ccg gtg 837
Ala Thr Leu Val Leu Val Gly Arg Ala Asp Phe Leu Glu Gln Pro Val
230 235 240

ctg ggc ttc gtg agg ctg cag gag gca gcg gag ctg gag gcg gtg gag 885
Leu Gly Phe Val Arg Leu Gln Glu Ala Ala Glu Leu Glu Ala Val Glu
245 250 255

ctg ccg gtg cct ata cgc ttc ctc ttt gtg ttg ctg gga cct gag gcc 933
Leu Pro Val Pro Ile Arg Phe Leu Phe Val Leu Leu Gly Pro Glu Ala
260 265 270

ccc cac atc gat tac acc cag ctt ggc cgg gct gct gcc acc ctc atg 981
Pro His Ile Asp Tyr Thr Gln Leu Gly Arg Ala Ala Ala Thr Leu Met
275 280 285

tca gag agg gtg ttc cgc ata gat gcc tac atg gct cag agc cga ggg 1029
Ser Glu Arg Val Phe Arg Ile Asp Ala Tyr Met Ala Gln Ser Arg Gly
290 295 300 305

gag ctg ctg cac tcc cta gag ggc ttc ctg gac tgc agc cta gtg ctg 1077
Glu Leu Leu His Ser Leu Glu Gly Phe Leu Asp Cys Ser Leu Val Leu
310 315 320

cct ccc acc gat gcc ccc tcc gag cag gca ctg ctc agt ctg gtg cct 1125
Pro Pro Thr Asp Ala Pro Ser Glu Gln Ala Leu Leu Ser Leu Val Pro
325 330 335

gtg cag agg gag cta ctt cga agg cgc tat cag tcc agc cct gcc aag 1173
Val Gln Arg Glu Leu Leu Arg Arg Arg Tyr Gln Ser Ser Pro Ala Lys
340 345 350

cca gac tcc agc ttc tac aag ggc cta gac tta aat ggg ggc cca gat 1221
Pro Asp Ser Ser Phe Tyr Lys Gly Leu Asp Leu Asn Gly Gly Pro Asp

```
    355                 360                 365

gac cct ctg cag cag aca ggc cag ctc ttc ggg ggc ctg gtg cgt gat   1269
Asp Pro Leu Gln Gln Thr Gly Gln Leu Phe Gly Gly Leu Val Arg Asp
370                 375                 380                 385

atc cgg cgc cgc tac ccc tat tac ctg agt gac atc aca gat gca ttc   1317
Ile Arg Arg Arg Tyr Pro Tyr Tyr Leu Ser Asp Ile Thr Asp Ala Phe
                390                 395                 400

agc ccc cag gtc ctg gct gcc gtc atc ttc atc tac ttt gct gca ctg   1365
Ser Pro Gln Val Leu Ala Ala Val Ile Phe Ile Tyr Phe Ala Ala Leu
            405                 410                 415

tca ccc gcc atc acc ttc ggc ggc ctc ctg gga gaa aag acc cgg aac   1413
Ser Pro Ala Ile Thr Phe Gly Gly Leu Leu Gly Glu Lys Thr Arg Asn
        420                 425                 430

cag atg gga gtg tcg gag ctg ctg atc tcc act gca gtg cag ggc att   1461
Gln Met Gly Val Ser Glu Leu Leu Ile Ser Thr Ala Val Gln Gly Ile
    435                 440                 445

ctc ttc gcc ctg ctg ggg gct cag ccc ctg ctt gtg gtc ggc ttc tca   1509
Leu Phe Ala Leu Leu Gly Ala Gln Pro Leu Leu Val Val Gly Phe Ser
450                 455                 460                 465

gga ccc ctg ctg gtg ttt gag gaa gcc ttc ttc tcg ttc tgc gag acc   1557
Gly Pro Leu Leu Val Phe Glu Glu Ala Phe Phe Ser Phe Cys Glu Thr
                470                 475                 480

aac ggt cta gag tac atc gtg ggc cgc gtg tgg atc ggc ttc tgg ctc   1605
Asn Gly Leu Glu Tyr Ile Val Gly Arg Val Trp Ile Gly Phe Trp Leu
            485                 490                 495

atc ctg ctg gtg gtg ttg gtg gtg gcc ttc gag ggt agc ttc ctg gtc   1653
Ile Leu Leu Val Val Leu Val Val Ala Phe Glu Gly Ser Phe Leu Val
        500                 505                 510

cgc ttc atc tcc cgc tat acc cag gag atc ttc tcc ttc ctc att tcc   1701
Arg Phe Ile Ser Arg Tyr Thr Gln Glu Ile Phe Ser Phe Leu Ile Ser
    515                 520                 525

ctc atc ttc atc tat gag act ttc tcc aag ctg atc aag atc ttc cag   1749
Leu Ile Phe Ile Tyr Glu Thr Phe Ser Lys Leu Ile Lys Ile Phe Gln
530                 535                 540                 545

gac cac cca cta cag aag act tat aac tac aac gtg ttg atg gtg ccc   1797
Asp His Pro Leu Gln Lys Thr Tyr Asn Tyr Asn Val Leu Met Val Pro
                550                 555                 560

aaa cct cag ggc ccc ctg ccc aac aca gcc ctc ctc tcc ctt gtg ctc   1845
Lys Pro Gln Gly Pro Leu Pro Asn Thr Ala Leu Leu Ser Leu Val Leu
            565                 570                 575

atg gcc ggt acc ttc ttc ttt gcc atg atg ctg cgc aag ttc aag aac   1893
Met Ala Gly Thr Phe Phe Phe Ala Met Met Leu Arg Lys Phe Lys Asn
        580                 585                 590

agc tcc tat ttc cct ggc aag ctg cgt cgg gtc atc ggg gac ttc ggg   1941
Ser Ser Tyr Phe Pro Gly Lys Leu Arg Arg Val Ile Gly Asp Phe Gly
    595                 600                 605

gtc ccc atc tcc atc ctg atc atg gtc ctg gtg gat ttc ttc att cag   1989
Val Pro Ile Ser Ile Leu Ile Met Val Leu Val Asp Phe Phe Ile Gln
610                 615                 620                 625

gat acc tac acc cag aaa ctc tcg gtg cct gat ggc ttc aag gtg tcc   2037
Asp Thr Tyr Thr Gln Lys Leu Ser Val Pro Asp Gly Phe Lys Val Ser
```

630 635 640

aac tcc tca gcc cgg ggc tgg gtc atc cac cca ctg ggc ttg cgt tcc 2085
Asn Ser Ser Ala Arg Gly Trp Val Ile His Pro Leu Gly Leu Arg Ser
645 650 655

gag ttt ccc atc tgg atg atg ttt gcc tcc gcc ctg cct gct ctg ctg 2133
Glu Phe Pro Ile Trp Met Met Phe Ala Ser Ala Leu Pro Ala Leu Leu
660 665 670

gtc ttc atc ctc ata ttc ctg gag tct cag atc acc acg ctg att gtc 2181
Val Phe Ile Leu Ile Phe Leu Glu Ser Gln Ile Thr Thr Leu Ile Val
675 680 685

agc aaa cct gag cgc aag atg gtc aag ggc tcc ggc ttc cac ctg gac 2229
Ser Lys Pro Glu Arg Lys Met Val Lys Gly Ser Gly Phe His Leu Asp
690 695 700 705

ctg ctg ctg gta gta ggc atg ggt ggg gtg gcc gcc ctc ttt ggg atg 2277
Leu Leu Leu Val Val Gly Met Gly Gly Val Ala Ala Leu Phe Gly Met
710 715 720

ccc tgg ctc agt gcc acc acc gtg cgt tcc gtc acc cat gcc aac gcc 2325
Pro Trp Leu Ser Ala Thr Thr Val Arg Ser Val Thr His Ala Asn Ala
725 730 735

ctc act gtc atg ggc aaa gcc agc acc cca ggg gct gca gcc cag atc 2373
Leu Thr Val Met Gly Lys Ala Ser Thr Pro Gly Ala Ala Ala Gln Ile
740 745 750

cag gag gtc aaa gag cag cgg atc agt gga ctc ctg gtc gct gtg ctt 2421
Gln Glu Val Lys Glu Gln Arg Ile Ser Gly Leu Leu Val Ala Val Leu
755 760 765

gtg ggc ctg tcc atc ctc atg gag ccc atc ctg tcc cgc atc ccc ctg 2469
Val Gly Leu Ser Ile Leu Met Glu Pro Ile Leu Ser Arg Ile Pro Leu
770 775 780 785

gct gta ctg ttt ggc atc ttc ctc tac atg ggg gtc acg tcg ctc agc 2517
Ala Val Leu Phe Gly Ile Phe Leu Tyr Met Gly Val Thr Ser Leu Ser
790 795 800

ggc atc cag ctc ttt gac cgc atc ttg ctt ctg ttc aag cca ccc aag 2565
Gly Ile Gln Leu Phe Asp Arg Ile Leu Leu Leu Phe Lys Pro Pro Lys
805 810 815

tat cac cca gat gtg ccc tac gtc aag cgg gtg aag acc tgg cgc atg 2613
Tyr His Pro Asp Val Pro Tyr Val Lys Arg Val Lys Thr Trp Arg Met
820 825 830

cac tta ttc acg ggc atc cag atc atc tgc ctg gca gtg ctg tgg gtg 2661
His Leu Phe Thr Gly Ile Gln Ile Ile Cys Leu Ala Val Leu Trp Val
835 840 845

gtg aag tcc acg ccg gcc tcc ctg gcc ctg ccc ttc gtc ctc atc ctc 2709
Val Lys Ser Thr Pro Ala Ser Leu Ala Leu Pro Phe Val Leu Ile Leu
850 855 860 865

act gtg ccg ctg cgg cgc gtc ctg ctg ccg ctc atc ttc agg aac gtg 2757
Thr Val Pro Leu Arg Arg Val Leu Leu Pro Leu Ile Phe Arg Asn Val
870 875 880

gag ctt cag tgt ctg gat gct gat gat gcc aag gca acc ttt gat gag 2805
Glu Leu Gln Cys Leu Asp Ala Asp Asp Ala Lys Ala Thr Phe Asp Glu
885 890 895

gag gaa ggt cgg gat gaa tac gac gaa gtg gcc atg cct gtg tga 2850
Glu Glu Gly Arg Asp Glu Tyr Asp Glu Val Ala Met Pro Val *

900 905 910

ggggcgggcc caggccctag accctccccc accattccac atccccacct tccaaggaaa 2910
agcagaagtt catgggcacc tcatggactc aggatcctcc tggagcagca gctgaggccc 2970
cagggctgtg ggtggggaag gaaggcgtgt ccaggagacc ttccacaaag ggtagcctgg 3030
cttttctggc tggggatggc cgatggggcc cacattaggg ggtttgttgc acagtccctc 3090
ctgttgccac actttcactg gggatcccgt gctggaagac ttagatctga gccctccctc 3150
ttcccagcac aggcaggggt agaagcaaag gcaggaggtg ggtgagcggg tggggtgctt 3210
gctgtgtgac cttgggtaag tcccttgacc tttccaggcc tatatttcct cttctgtaaa 3270
atgggtatat tgatgataat acccacatta caggatggtt actgaggacc aaagatacat 3330
gtaaaatagg gctttgtaaa ctccacaggg actgttctat agcagtcatc atttgtcttt 3390
gaacgtaccc aaggtcacat agctgggatt tgaactgagc cgtgcagctg ggatttgaac 3450
caggccttct gatttcaagg tccgagctct gtcctctgtc agtcatgcgt ccactttccc 3510
ttcccctgtg actcctccct tccccactct gctcccagcc cctaccttga gaccctcttc 3570
tctgggccca gagagaggcg tcctgggtga aggaaggtac aggcaggatg atccagggat 3630
tgggctg 3637

<210> 9
<211> 847
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (42)...(812)
<223> Human surfeit 2 (SURF2) mRNA coding region

<400> 9
gcgagcggct tccgccgggc tgctccgcgg gcgcgtcggc c atg agc gag ttg ccg 56
Met Ser Glu Leu Pro
1 5

ggc gac gtg cgg gcg ttt ctg cgg gag cac ccg agc ctg cgg ctc cag 104
Gly Asp Val Arg Ala Phe Leu Arg Glu His Pro Ser Leu Arg Leu Gln
10 15 20

acg gac gcc cgc aag gtg agg tgc atc ctg aca ggt cac gag ctg ccc 152
Thr Asp Ala Arg Lys Val Arg Cys Ile Leu Thr Gly His Glu Leu Pro
25 30 35

tgc cgc ctg ccg gag ctc cag gtc tac acc cgc ggc aaa aag tac cag 200
Cys Arg Leu Pro Glu Leu Gln Val Tyr Thr Arg Gly Lys Lys Tyr Gln
40 45 50

cgg ctg gtc cgc gcc tcc ccg gcc ttc gac tat gca gag ttc gag ccg 248
Arg Leu Val Arg Ala Ser Pro Ala Phe Asp Tyr Ala Glu Phe Glu Pro
55 60 65

cac atc gtg ccc agc acc aag aac ccg cac cag ttg ttc tgc aaa ctc 296
His Ile Val Pro Ser Thr Lys Asn Pro His Gln Leu Phe Cys Lys Leu
70 75 80 85

acc ctg cgg cac atc aac aag tgc cca gaa cac gtg ctg agg cac acc 344
Thr Leu Arg His Ile Asn Lys Cys Pro Glu His Val Leu Arg His Thr
90 95 100

cag ggc cgg cgg tac cag cga gct ctg tgt aaa tat gaa gaa tgt cag 392
Gln Gly Arg Arg Tyr Gln Arg Ala Leu Cys Lys Tyr Glu Glu Cys Gln
105 110 115

aag caa ggg gtg gag tac gtg cct gcc tgc ctg gtg cac cgg agg agg 440
Lys Gln Gly Val Glu Tyr Val Pro Ala Cys Leu Val His Arg Arg Arg
120 125 130

agg agg gag gac cag atg gac ggt gac ggg cct cgc ccg cgg gaa gcc 488
Arg Arg Glu Asp Gln Met Asp Gly Asp Gly Pro Arg Pro Arg Glu Ala
135 140 145

```
ttc tgg gag ccc aca tcc agt gat gag ggg gga gct gca agt gat gac   536
Phe Trp Glu Pro Thr Ser Ser Asp Glu Gly Gly Ala Ala Ser Asp Asp
150                 155                 160                 165

agc atg aca gac ctg tac cca cct gag cta ttc acc aga aag gac ctt   584
Ser Met Thr Asp Leu Tyr Pro Pro Glu Leu Phe Thr Arg Lys Asp Leu
                170                 175                 180

gga agc acg gag gat ggg gat ggc act gat gac ttt ttg aca gac aaa   632
Gly Ser Thr Glu Asp Gly Asp Gly Thr Asp Asp Phe Leu Thr Asp Lys
            185                 190                 195

gag gat gag aag gca aag ccc cca aga gag aag gcc act gat gag ggc   680
Glu Asp Glu Lys Ala Lys Pro Pro Arg Glu Lys Ala Thr Asp Glu Gly
        200                 205                 210

agg aga gag acg acc gtg tac cga ggg ctg gtc cag aag cgc ggg aag   728
Arg Arg Glu Thr Thr Val Tyr Arg Gly Leu Val Gln Lys Arg Gly Lys
    215                 220                 225

aag cag ttg ggc tcg ttg aaa aag aag ttc aag agt cat cac cgc aaa   776
Lys Gln Leu Gly Ser Leu Lys Lys Lys Phe Lys Ser His His Arg Lys
230                 235                 240                 245

ccc aag agc ttc agc tcc tgt aaa cag cca ggt taa taaaagcaca        822
Pro Lys Ser Phe Ser Ser Cys Lys Gln Pro Gly  *
                250                 255

tgccgtgaaa aaaaaaaaaa aaaaa                                      847

<210> 10
<211> 2121
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (18)...(1838)
<223> Human transmembrane 9 superfamily member 1
      (TM9SF1) mRNA coding region

<400> 10
gttccactgc cttaagg atg aca gtc gta ggg aac cct cga agt tgg agc     50
                  Met Thr Val Val Gly Asn Pro Arg Ser Trp Ser
                   1               5                  10

tgc cag tgg ttg cca atc ctg ata ctg ttg ctg ggc aca ggc cat ggg    98
Cys Gln Trp Leu Pro Ile Leu Ile Leu Leu Leu Gly Thr Gly His Gly
            15                  20                  25

cca ggg gtg gaa ggc gtg aca cac tac aag gcc ggc gac cct gtt att   146
Pro Gly Val Glu Gly Val Thr His Tyr Lys Ala Gly Asp Pro Val Ile
        30                  35                  40

ctg tat gtc aac aaa gtg gga ccc tac cat aac cct cag gaa act tac   194
Leu Tyr Val Asn Lys Val Gly Pro Tyr His Asn Pro Gln Glu Thr Tyr
    45                  50                  55

cac tac tat cag ctt cca gtc tgc tgc cct gag aag ata cgt cac aaa   242
His Tyr Tyr Gln Leu Pro Val Cys Cys Pro Glu Lys Ile Arg His Lys
60                  65                  70                  75

agc ctt agc ctg ggt gaa gtg ctg gat ggg gac cga atg gct gag tct   290
Ser Leu Ser Leu Gly Glu Val Leu Asp Gly Asp Arg Met Ala Glu Ser
                80                  85                  90

ttg tat gag atc cgc ttt cgg gaa aac gtg gag aag aga att ctg tgc   338
Leu Tyr Glu Ile Arg Phe Arg Glu Asn Val Glu Lys Arg Ile Leu Cys
```

95 100 105

cac atg cag ctc agt tct gca cag gtg gag cag ctg cgc cag gcc att 386
His Met Gln Leu Ser Ser Ala Gln Val Glu Gln Leu Arg Gln Ala Ile
110 115 120

gaa gaa ctg tac tac ttt gaa ttt gtg gta gat gac ttg cca atc cgg 434
Glu Glu Leu Tyr Tyr Phe Glu Phe Val Val Asp Asp Leu Pro Ile Arg
125 130 135

ggc ttt gtg ggc tac atg gag gag agt ggt ttc ctg cca cac agc cac 482
Gly Phe Val Gly Tyr Met Glu Glu Ser Gly Phe Leu Pro His Ser His
140 145 150 155

aag ata gga ctc tgg acc cat ttg gac ttc cac cta gaa ttc cat gga 530
Lys Ile Gly Leu Trp Thr His Leu Asp Phe His Leu Glu Phe His Gly
160 165 170

gac cga att ata ttt gcc aat gtt tca gtg cgg gac gtc aag ccc cac 578
Asp Arg Ile Ile Phe Ala Asn Val Ser Val Arg Asp Val Lys Pro His
175 180 185

agc ttg gat ggg tta cga cct gac gag ttc cta ggc ctt acc cac act 626
Ser Leu Asp Gly Leu Arg Pro Asp Glu Phe Leu Gly Leu Thr His Thr
190 195 200

tat agc gtg cgc tgg tct gag act tca gtg gag cgt cgg agt gac agg 674
Tyr Ser Val Arg Trp Ser Glu Thr Ser Val Glu Arg Arg Ser Asp Arg
205 210 215

cgc cgt ggt gac gat ggt ggt ttc ttt cct cga aca ctg gaa atc cat 722
Arg Arg Gly Asp Asp Gly Gly Phe Phe Pro Arg Thr Leu Glu Ile His
220 225 230 235

tgg ttg tcc atc atc aac tcc atg gtg ctt gtg ttt tta ctg gtg ggt 770
Trp Leu Ser Ile Ile Asn Ser Met Val Leu Val Phe Leu Leu Val Gly
240 245 250

ttt gtg gct gtc att cta atg cgt gtg ctt cgg aat gac ctg gct cgg 818
Phe Val Ala Val Ile Leu Met Arg Val Leu Arg Asn Asp Leu Ala Arg
255 260 265

tac aac tta gat gag gag acc acc tct gca ggt tct ggt gat gac ttt 866
Tyr Asn Leu Asp Glu Glu Thr Thr Ser Ala Gly Ser Gly Asp Asp Phe
270 275 280

gac cag ggt gac aat ggc tgg aaa att atc cat aca gat gtc ttc cgc 914
Asp Gln Gly Asp Asn Gly Trp Lys Ile Ile His Thr Asp Val Phe Arg
285 290 295

ttc ccc cca tac cgt ggt ctg ctc tgt gct gtg ctt ggc gtg ggt gcc 962
Phe Pro Pro Tyr Arg Gly Leu Leu Cys Ala Val Leu Gly Val Gly Ala
300 305 310 315

cag ttc ctg gcc ctt ggc act ggc att att gtc atg gca ctg ctg ggc 1010
Gln Phe Leu Ala Leu Gly Thr Gly Ile Ile Val Met Ala Leu Leu Gly
320 325 330

atg ttc aat gtg cac cgt cat ggg gcc att aac tca gca gcc atc ttg 1058
Met Phe Asn Val His Arg His Gly Ala Ile Asn Ser Ala Ala Ile Leu
335 340 345

ttg tat gcc ctg acc tgc tgc atc tct ggc tac gtg tcc agc cac ttc 1106
Leu Tyr Ala Leu Thr Cys Cys Ile Ser Gly Tyr Val Ser Ser His Phe
350 355 360

tac cgg cag att gga ggc gag cgt tgg gtg tgg aac atc att ctc acc 1154
Tyr Arg Gln Ile Gly Gly Glu Arg Trp Val Trp Asn Ile Ile Leu Thr

```
    365                 370                 375

acc agt ctc ttc tct gtg cct ttc ttc ctg acg tgg agt gtg gtg aac   1202
Thr Ser Leu Phe Ser Val Pro Phe Phe Leu Thr Trp Ser Val Val Asn
380                 385                 390                 395

tca gtg cat tgg gcc aat ggt tcg aca cag gct ctg cca gcc aca acc   1250
Ser Val His Trp Ala Asn Gly Ser Thr Gln Ala Leu Pro Ala Thr Thr
                400                 405                 410

atc ctg ctg ctt ctg acg gtt tgg ctg ctg gtg ggc ttt ccc ctc act   1298
Ile Leu Leu Leu Leu Thr Val Trp Leu Leu Val Gly Phe Pro Leu Thr
            415                 420                 425

gtc att gga ggc atc ttt ggg aag aac aac gcc agc ccc ttt gat gca   1346
Val Ile Gly Gly Ile Phe Gly Lys Asn Asn Ala Ser Pro Phe Asp Ala
        430                 435                 440

ccc tgt cgc acc aag aac atc gcc cgg gag att cca ccc cag ccc tgg   1394
Pro Cys Arg Thr Lys Asn Ile Ala Arg Glu Ile Pro Pro Gln Pro Trp
    445                 450                 455

tac aag tct act gtc atc cac atg act gtt gga ggc ttc ctg cct ttc   1442
Tyr Lys Ser Thr Val Ile His Met Thr Val Gly Gly Phe Leu Pro Phe
460                 465                 470                 475

agt gcc atc tct gtg gag ctg tac tac atc ttt gcc aca gta tgg ggt   1490
Ser Ala Ile Ser Val Glu Leu Tyr Tyr Ile Phe Ala Thr Val Trp Gly
                480                 485                 490

cgg gag cag tac act ttg tac ggc atc ctc ttc ttt gtc ttc gcc atc   1538
Arg Glu Gln Tyr Thr Leu Tyr Gly Ile Leu Phe Phe Val Phe Ala Ile
            495                 500                 505

ctg ctg agt gtg ggg gct tgc atc tcc att gca ctc acc tac ttc cag   1586
Leu Leu Ser Val Gly Ala Cys Ile Ser Ile Ala Leu Thr Tyr Phe Gln
        510                 515                 520

ttg tct ggg gag gat tac cgc tgg tgg tgg cga tct gtg ctg agt gtt   1634
Leu Ser Gly Glu Asp Tyr Arg Trp Trp Trp Arg Ser Val Leu Ser Val
    525                 530                 535

ggc tcc acc ggc ctc ttc atc ttc ctc tac tca gtt ttc tat tat gcc   1682
Gly Ser Thr Gly Leu Phe Ile Phe Leu Tyr Ser Val Phe Tyr Tyr Ala
540                 545                 550                 555

cgg cgc tcc aac atg tct ggg gca gta cag aca gta gag ttc ttc ggc   1730
Arg Arg Ser Asn Met Ser Gly Ala Val Gln Thr Val Glu Phe Phe Gly
                560                 565                 570

tac tcc tta ctc act ggt tat gtc ttc ttc ctc atg ctg ggc acc atc   1778
Tyr Ser Leu Leu Thr Gly Tyr Val Phe Phe Leu Met Leu Gly Thr Ile
            575                 580                 585

tcc ttt ttt tct tcc cta aag ttc atc cgg tat atc tat gtt aac ctc   1826
Ser Phe Phe Ser Ser Leu Lys Phe Ile Arg Tyr Ile Tyr Val Asn Leu
        590                 595                 600

aag atg gac tga gttctgtatg gcagaactat tgctgttctc tccctttctt       1878
Lys Met Asp  *
    605

catgccctgt tgaactctcc taccagcttc tcttctgatt gactgaattg tgtgatggca 1938
ttgttgcctt ccctttgcc ctttgggcat tccttcccca gagagggcct ggaaattata 1998
aatctctatc acataaggat tatatatttg aacttttaa gttgccttta gttttggtcc 2058
tgatttttct ttttacaatt accaaaataa aatttattaa gaaaaagaaa aaaaaaaaaa 2118
aaa                                                               2121
```

seqlist.txt

<210> 11
<211> 5910
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (337)...(4632)
<223> Human death-associated protein kinase 1 (DAPK1)
mRNA coding region

<400> 11
cggaggacag ccggaccgag ccaacgccgg ggactttgtt ccctccacgg aggggactcg 60
gcaactcgca gcggcagggt ctggggccgg cgcctgggag ggatctgcgc cccccactca 120
ctccctagct gtgttcccgc cgccgccccg gctagtctcc ggcgctggcg cctatggtcg 180
gcctccgaca gcgctccgga gggaccgggg gagctcccag gcgcccggga ctggagactg 240
atgcatgagg ggcctacgga ggcgcaggag cggtggtgat ggtctgggaa gcggagctga 300
agtcccctgg gctttggtga ggcgtgacag tttatc atg acc gtg ttc agg cag 354
Met Thr Val Phe Arg Gln
1 5

gaa aac gtg gat gat tac tac gac acc ggc gag gaa ctt ggc agt gga 402
Glu Asn Val Asp Asp Tyr Tyr Asp Thr Gly Glu Glu Leu Gly Ser Gly
10 15 20

cag ttt gcg gtt gtg aag aaa tgc cgt gag aaa agt acc ggc ctc cag 450
Gln Phe Ala Val Val Lys Lys Cys Arg Glu Lys Ser Thr Gly Leu Gln
25 30 35

tat gcc gcc aaa ttc atc aag aaa agg agg act aag tcc agc cgg cgg 498
Tyr Ala Ala Lys Phe Ile Lys Lys Arg Arg Thr Lys Ser Ser Arg Arg
40 45 50

ggt gtg agc cgc gag gac atc gag cgg gag gtc agc atc ctg aag gag 546
Gly Val Ser Arg Glu Asp Ile Glu Arg Glu Val Ser Ile Leu Lys Glu
55 60 65 70

atc cag cac ccc aat gtc atc acc ctg cac gag gtc tat gag aac aag 594
Ile Gln His Pro Asn Val Ile Thr Leu His Glu Val Tyr Glu Asn Lys
75 80 85

acg gac gtc atc ctg atc ttg gaa ctc gtt gca ggt ggc gag ctg ttt 642
Thr Asp Val Ile Leu Ile Leu Glu Leu Val Ala Gly Gly Glu Leu Phe
90 95 100

gac ttc tta gct gaa aag gaa tct tta act gaa gag gaa gca act gaa 690
Asp Phe Leu Ala Glu Lys Glu Ser Leu Thr Glu Glu Glu Ala Thr Glu
105 110 115

ttt ctc aaa caa att ctt aat ggt gtt tac tac ctg cac tcc ctt caa 738
Phe Leu Lys Gln Ile Leu Asn Gly Val Tyr Tyr Leu His Ser Leu Gln
120 125 130

atc gcc cac ttt gat ctt aag cct gag aac ata atg ctt ttg gat aga 786
Ile Ala His Phe Asp Leu Lys Pro Glu Asn Ile Met Leu Leu Asp Arg
135 140 145 150

aat gtc ccc aaa cct cgg atc aag atc att gac ttt ggg ttg gcc cat 834
Asn Val Pro Lys Pro Arg Ile Lys Ile Ile Asp Phe Gly Leu Ala His
155 160 165

aaa att gac ttt gga aat gaa ttt aaa aac ata ttt ggg act cca gag 882
Lys Ile Asp Phe Gly Asn Glu Phe Lys Asn Ile Phe Gly Thr Pro Glu
170 175 180

ttt gtc gct cct gag ata gtc aac tat gaa cct ctt ggt ctt gag gca 930
Phe Val Ala Pro Glu Ile Val Asn Tyr Glu Pro Leu Gly Leu Glu Ala
185 190 195

```
gat atg tgg agt atc ggg gta ata acc tat atc ctc cta agt ggg gcc   978
Asp Met Trp Ser Ile Gly Val Ile Thr Tyr Ile Leu Leu Ser Gly Ala
    200                 205                 210

tcc cca ttt ctt gga gac act aag caa gaa acg tta gca aat gta tcc   1026
Ser Pro Phe Leu Gly Asp Thr Lys Gln Glu Thr Leu Ala Asn Val Ser
215                 220                 225                 230

gct gtc aac tac gaa ttt gag gat gaa tac ttc agt aat acc agt gcc   1074
Ala Val Asn Tyr Glu Phe Glu Asp Glu Tyr Phe Ser Asn Thr Ser Ala
                235                 240                 245

cta gcc aaa gat ttc ata aga aga ctt ctg gtc aag gat cca aag aag   1122
Leu Ala Lys Asp Phe Ile Arg Arg Leu Leu Val Lys Asp Pro Lys Lys
            250                 255                 260

aga atg aca att caa gat agt ttg cag cat ccc tgg atc aag cct aaa   1170
Arg Met Thr Ile Gln Asp Ser Leu Gln His Pro Trp Ile Lys Pro Lys
        265                 270                 275

gat aca caa cag gca ctt agt aga aaa gca tca gca gta aac atg gag   1218
Asp Thr Gln Gln Ala Leu Ser Arg Lys Ala Ser Ala Val Asn Met Glu
    280                 285                 290

aaa ttc aag aag ttt gca gcc cgg aaa aaa tgg aaa caa tcc gtt cgc   1266
Lys Phe Lys Lys Phe Ala Ala Arg Lys Lys Trp Lys Gln Ser Val Arg
295                 300                 305                 310

ttg ata tca ctg tgc caa aga tta tcc agg tca ttc ctg tcc aga agt   1314
Leu Ile Ser Leu Cys Gln Arg Leu Ser Arg Ser Phe Leu Ser Arg Ser
                315                 320                 325

aac atg agt gtt gcc aga agc gat gat act ctg gat gag gaa gac tcc   1362
Asn Met Ser Val Ala Arg Ser Asp Asp Thr Leu Asp Glu Glu Asp Ser
            330                 335                 340

ttt gtg atg aaa gcc atc atc cat gcc atc aac gat gac aat gtc cca   1410
Phe Val Met Lys Ala Ile Ile His Ala Ile Asn Asp Asp Asn Val Pro
        345                 350                 355

ggc ctg cag cac ctt ctg ggc tca tta tcc aac tat gat gtt aac caa   1458
Gly Leu Gln His Leu Leu Gly Ser Leu Ser Asn Tyr Asp Val Asn Gln
    360                 365                 370

ccc aac aag cac ggg aca cct cca tta ctc att gct gct ggc tgt ggg   1506
Pro Asn Lys His Gly Thr Pro Pro Leu Leu Ile Ala Ala Gly Cys Gly
375                 380                 385                 390

aat att caa ata cta cag ttg ctc att aaa aga ggc tcg aga atc gat   1554
Asn Ile Gln Ile Leu Gln Leu Leu Ile Lys Arg Gly Ser Arg Ile Asp
                395                 400                 405

gtc cag gat aag ggc ggg tcc aat gcc gtc tac tgg gct gct cgg cat   1602
Val Gln Asp Lys Gly Gly Ser Asn Ala Val Tyr Trp Ala Ala Arg His
            410                 415                 420

ggc cac gtc gat acc ttg aaa ttt ctc agt gag aac aaa tgc cct ttg   1650
Gly His Val Asp Thr Leu Lys Phe Leu Ser Glu Asn Lys Cys Pro Leu
        425                 430                 435

gat gtg aaa gac aag tct gga gag atg gcc ctc cac gtg gca gct cgc   1698
Asp Val Lys Asp Lys Ser Gly Glu Met Ala Leu His Val Ala Ala Arg
    440                 445                 450

tat ggc cat gct gac gtg gct caa gtt act tgt gca gct tcg gct caa   1746
Tyr Gly His Ala Asp Val Ala Gln Val Thr Cys Ala Ala Ser Ala Gln
455                 460                 465                 470
```

```
atc cca ata tcc agg aca aag gaa gaa gaa acc ccc ctg cac tgt gct   1794
Ile Pro Ile Ser Arg Thr Lys Glu Glu Glu Thr Pro Leu His Cys Ala
                475                 480                 485

gct tgg cac ggc tat tac tct gtg gcc aaa gcc ctt tgt gaa gcc ggc   1842
Ala Trp His Gly Tyr Tyr Ser Val Ala Lys Ala Leu Cys Glu Ala Gly
            490                 495                 500

tgt aac gtg aac atc aag aac cga gaa gga gag acg ccc ctc ctg aca   1890
Cys Asn Val Asn Ile Lys Asn Arg Glu Gly Glu Thr Pro Leu Leu Thr
        505                 510                 515

gcc tct gcc agg ggc tac cac gac atc gtg gag tgt ctg gcc gaa cat   1938
Ala Ser Ala Arg Gly Tyr His Asp Ile Val Glu Cys Leu Ala Glu His
    520                 525                 530

gga gcc gac ctt aat gct tgc gac aag gac gga cac att gcc ctt cat   1986
Gly Ala Asp Leu Asn Ala Cys Asp Lys Asp Gly His Ile Ala Leu His
535                 540                 545                 550

ctg gct gta aga cgg tgt cag atg gag gta atc aag act ctc ctc agc   2034
Leu Ala Val Arg Arg Cys Gln Met Glu Val Ile Lys Thr Leu Leu Ser
                555                 560                 565

caa ggg tgt ttc gtc gat tat caa gac agg cac ggc aat act ccc ctc   2082
Gln Gly Cys Phe Val Asp Tyr Gln Asp Arg His Gly Asn Thr Pro Leu
            570                 575                 580

cat gtg gca tgt aaa gat ggc aac atg cct atc gtg gtg gcc ctc tgt   2130
His Val Ala Cys Lys Asp Gly Asn Met Pro Ile Val Val Ala Leu Cys
        585                 590                 595

gaa gca aac tgc aat ttg gac atc tcc aac aag tat ggg cga acg cct   2178
Glu Ala Asn Cys Asn Leu Asp Ile Ser Asn Lys Tyr Gly Arg Thr Pro
    600                 605                 610

ctg cac ctt gcg gcc aac aac gga atc cta gac gtg gtc cgg tat ctc   2226
Leu His Leu Ala Ala Asn Asn Gly Ile Leu Asp Val Val Arg Tyr Leu
615                 620                 625                 630

tgt ctg atg gga gcc agc gtt gag gcg ctg acc acg gac gga aag acg   2274
Cys Leu Met Gly Ala Ser Val Glu Ala Leu Thr Thr Asp Gly Lys Thr
                635                 640                 645

gca gaa gat ctt gct aga tcg gaa cag cac gag cac gta gca ggt ctc   2322
Ala Glu Asp Leu Ala Arg Ser Glu Gln His Glu His Val Ala Gly Leu
            650                 655                 660

ctt gca aga ctt cga aag gat acg cac cga gga ctc ttc atc cag cag   2370
Leu Ala Arg Leu Arg Lys Asp Thr His Arg Gly Leu Phe Ile Gln Gln
        665                 670                 675

ctc cga ccc aca cag aac ctg cag cca aga att aag ctc aag ctg ttt   2418
Leu Arg Pro Thr Gln Asn Leu Gln Pro Arg Ile Lys Leu Lys Leu Phe
    680                 685                 690

ggc cac tcg gga tcc ggg aaa acc acc ctt gta gaa tct ctc aag tgt   2466
Gly His Ser Gly Ser Gly Lys Thr Thr Leu Val Glu Ser Leu Lys Cys
695                 700                 705                 710

ggg ctg ctg agg agc ttt ttc aga agg cgt cgg ccc aga ctg tct tcc   2514
Gly Leu Leu Arg Ser Phe Phe Arg Arg Arg Arg Pro Arg Leu Ser Ser
                715                 720                 725

acc aac tcc agc agg ttc cca cct tca ccc ctg gct tct aag ccc aca   2562
Thr Asn Ser Ser Arg Phe Pro Pro Ser Pro Leu Ala Ser Lys Pro Thr
            730                 735                 740
```

```
gtc tca gtg agc atc aac aac ctg tac cca ggc tgc gag aac gtg agt   2610
Val Ser Val Ser Ile Asn Asn Leu Tyr Pro Gly Cys Glu Asn Val Ser
        745                 750                 755

gtg agg agc cgc agc atg atg ttc gag ccg ggt ctt acc aaa ggg atg   2658
Val Arg Ser Arg Ser Met Met Phe Glu Pro Gly Leu Thr Lys Gly Met
    760                 765                 770

ctg gag gtg ttt gtg gcc ccg acc cac cac ccg cac tgc tcg gcc gat   2706
Leu Glu Val Phe Val Ala Pro Thr His His Pro His Cys Ser Ala Asp
775                 780                 785                 790

gac cag tcc acc aag gcc atc gac atc cag aac gct tat ttg aat gga   2754
Asp Gln Ser Thr Lys Ala Ile Asp Ile Gln Asn Ala Tyr Leu Asn Gly
                795                 800                 805

gtt ggc gat ttc agc gtg tgg gag ttc tct gga aat cct gtg tat ttc   2802
Val Gly Asp Phe Ser Val Trp Glu Phe Ser Gly Asn Pro Val Tyr Phe
            810                 815                 820

tgc tgt tat gac tat ttt gct gca aat gat ccc acg tca atc cat gtt   2850
Cys Cys Tyr Asp Tyr Phe Ala Ala Asn Asp Pro Thr Ser Ile His Val
        825                 830                 835

gtt gtc ttt agt cta gaa gag ccc tat gag atc cag ctg aac cca gtg   2898
Val Val Phe Ser Leu Glu Glu Pro Tyr Glu Ile Gln Leu Asn Pro Val
    840                 845                 850

att ttc tgg ctc agt ttc ctg aag tcc ctt gtc cca gtt gaa gaa ccc   2946
Ile Phe Trp Leu Ser Phe Leu Lys Ser Leu Val Pro Val Glu Glu Pro
855                 860                 865                 870

ata gcc ttc ggt ggc aag ctg aag aac cca ctc caa gtt gtc ctg gtg   2994
Ile Ala Phe Gly Gly Lys Leu Lys Asn Pro Leu Gln Val Val Leu Val
                875                 880                 885

gcc acc cac gct gac atc atg aat gtt cct cga ccg gct gga ggc gag   3042
Ala Thr His Ala Asp Ile Met Asn Val Pro Arg Pro Ala Gly Gly Glu
            890                 895                 900

ttt gga tat gac aaa gac aca tcg ttg ctg aaa gag att agg aac agg   3090
Phe Gly Tyr Asp Lys Asp Thr Ser Leu Leu Lys Glu Ile Arg Asn Arg
        905                 910                 915

ttt gga aat gat ctt cac att tca aat aag ctg ttt gtt ctg gat gct   3138
Phe Gly Asn Asp Leu His Ile Ser Asn Lys Leu Phe Val Leu Asp Ala
    920                 925                 930

ggg gct tct ggg tca aag gac atg aag gta ctt cga aat cat ctg caa   3186
Gly Ala Ser Gly Ser Lys Asp Met Lys Val Leu Arg Asn His Leu Gln
935                 940                 945                 950

gaa ata cga agc cag att gtt tcg gtc tgt cct ccc atg act cac ctg   3234
Glu Ile Arg Ser Gln Ile Val Ser Val Cys Pro Pro Met Thr His Leu
                955                 960                 965

tgt gag aaa atc atc tcc acg ctg cct tcc tgg agg aag ctc aat gga   3282
Cys Glu Lys Ile Ile Ser Thr Leu Pro Ser Trp Arg Lys Leu Asn Gly
            970                 975                 980

ccc aac cag ctg atg tcg ctg cag cag ttt gtg tac gac gtg cag gac   3330
Pro Asn Gln Leu Met Ser Leu Gln Gln Phe Val Tyr Asp Val Gln Asp
        985                 990                 995

cag ctg aac ccc ctg gcc agc gag gag gac ctc agg cgc att gct cag   3378
Gln Leu Asn Pro Leu Ala Ser Glu Glu Asp Leu Arg Arg Ile Ala Gln
    1000                1005                1010
```

```
cag ctc cac agc aca ggc gag atc aac atc atg caa agt gaa aca gtt   3426
Gln Leu His Ser Thr Gly Glu Ile Asn Ile Met Gln Ser Glu Thr Val
1015                1020                1025                1030

cag gac gtg ctg ctc ctg gac ccc cgc tgg ctc tgc aca aac gtc ctg   3474
Gln Asp Val Leu Leu Leu Asp Pro Arg Trp Leu Cys Thr Asn Val Leu
                    1035                1040                1045

ggg aag ttg ctg tcc gtg gag acc cca cgg gcg ctg cac cac tac cgg   3522
Gly Lys Leu Leu Ser Val Glu Thr Pro Arg Ala Leu His His Tyr Arg
            1050                1055                1060

ggc cgc tac acc gtg gag gac atc cag cgc ctg gtg ccc gac agc gac   3570
Gly Arg Tyr Thr Val Glu Asp Ile Gln Arg Leu Val Pro Asp Ser Asp
        1065                1070                1075

gtg gag gag ctg ctg cag atc ctc gat gcc atg gac atc tgc gcc cgg   3618
Val Glu Glu Leu Leu Gln Ile Leu Asp Ala Met Asp Ile Cys Ala Arg
    1080                1085                1090

gac ctg agc agc ggg acc atg gtg gac gtc cca gcc ctg atc aag aca   3666
Asp Leu Ser Ser Gly Thr Met Val Asp Val Pro Ala Leu Ile Lys Thr
1095                1100                1105                1110

gac aac ctg cac cgc tcc tgg gct gat gag gag gac gag gtg atg gtg   3714
Asp Asn Leu His Arg Ser Trp Ala Asp Glu Glu Asp Glu Val Met Val
                    1115                1120                1125

tat ggt ggc gtg cgc atc gtg ccc gtg gaa cac ctc acc ccc ttc cca   3762
Tyr Gly Gly Val Arg Ile Val Pro Val Glu His Leu Thr Pro Phe Pro
            1130                1135                1140

tgt ggc atc ttt cac aag gtc cag gtg aac ctg tgc cgg tgg atc cac   3810
Cys Gly Ile Phe His Lys Val Gln Val Asn Leu Cys Arg Trp Ile His
        1145                1150                1155

cag caa agc aca gag ggc gac gcg gac atc cgc ctg tgg gtg aat ggc   3858
Gln Gln Ser Thr Glu Gly Asp Ala Asp Ile Arg Leu Trp Val Asn Gly
    1160                1165                1170

tgc aag ctg gcc aac cgt ggg gcc gag ctg ctg gtg ctg ctg gtc aac   3906
Cys Lys Leu Ala Asn Arg Gly Ala Glu Leu Leu Val Leu Leu Val Asn
1175                1180                1185                1190

cac ggc cag ggc att gag gtc cag gtc cgt ggc ctg gag acg gag aag   3954
His Gly Gln Gly Ile Glu Val Gln Val Arg Gly Leu Glu Thr Glu Lys
                    1195                1200                1205

atc aag tgc tgc ctg ctg ctg gac tcg gtg tgc agc acc att gag aac   4002
Ile Lys Cys Cys Leu Leu Leu Asp Ser Val Cys Ser Thr Ile Glu Asn
            1210                1215                1220

gtc atg gcc acc acg ctg cca ggg ctc ctg acc gtg aag cat tac ctg   4050
Val Met Ala Thr Thr Leu Pro Gly Leu Leu Thr Val Lys His Tyr Leu
        1225                1230                1235

agc ccc cag cag ctg cgg gag cac cat gag ccc gtc atg atc tac cag   4098
Ser Pro Gln Gln Leu Arg Glu His His Glu Pro Val Met Ile Tyr Gln
    1240                1245                1250

cca cgg gac ttc ttc cgg gca cag act ctg aag gaa acc tca ctg acc   4146
Pro Arg Asp Phe Phe Arg Ala Gln Thr Leu Lys Glu Thr Ser Leu Thr
1255                1260                1265                1270

aac acc atg ggg ggg tac aag gaa agc ttc agc agc atc atg tgc ttc   4194
Asn Thr Met Gly Gly Tyr Lys Glu Ser Phe Ser Ser Ile Met Cys Phe
                    1275                1280                1285
```

```
ggg tgt cac gac gtc tac tca cag gcc agc ctc ggc atg gac atc cat   4242
Gly Cys His Asp Val Tyr Ser Gln Ala Ser Leu Gly Met Asp Ile His
            1290                1295                1300

gca tca gac ctg aac ctc ctc act cgg agg aaa ctg agt cgc ctg ctg   4290
Ala Ser Asp Leu Asn Leu Leu Thr Arg Arg Lys Leu Ser Arg Leu Leu
        1305                1310                1315

gac ccg ccc gac ccc ctg ggg aag gac tgg tgc ctt ctc gcc atg aac   4338
Asp Pro Pro Asp Pro Leu Gly Lys Asp Trp Cys Leu Leu Ala Met Asn
    1320                1325                1330

tta ggc ctc cct gac ctc gtg gca aag tac aac acc aat aac ggg gct   4386
Leu Gly Leu Pro Asp Leu Val Ala Lys Tyr Asn Thr Asn Asn Gly Ala
1335                1340                1345                1350

ccc aag gat ttc ctc ccc agc ccc ctc cac gcc ctg ctg cgg gaa tgg   4434
Pro Lys Asp Phe Leu Pro Ser Pro Leu His Ala Leu Leu Arg Glu Trp
                1355                1360                1365

acc acc tac cct gag agc aca gtg ggc acc ctc atg tcc aaa ctg agg   4482
Thr Thr Tyr Pro Glu Ser Thr Val Gly Thr Leu Met Ser Lys Leu Arg
            1370                1375                1380

gag ctg ggt cgc cgg gat gcc gca gac ctt ttg ctg aag gca tcc tct   4530
Glu Leu Gly Arg Arg Asp Ala Ala Asp Leu Leu Leu Lys Ala Ser Ser
        1385                1390                1395

gtg ttc aaa atc aac ctg gat ggc aat ggc cag gag gcc tat gcc tcg   4578
Val Phe Lys Ile Asn Leu Asp Gly Asn Gly Gln Glu Ala Tyr Ala Ser
    1400                1405                1410

agc tgc aac agc ggc acc tct tac aat tcc att agc tct gtt gta tcc   4626
Ser Cys Asn Ser Gly Thr Ser Tyr Asn Ser Ile Ser Ser Val Val Ser
1415                1420                1425                1430

cgg tga gggcagcctc tggcttggac agggtctgtt tggactgcag aaccaagggg    4682
Arg  *

gtgatgtagc ccatccttcc ctttggagat gctgagggtg tttcttcctg cacccacagc 4742
caggggggatg ccactcctcc ctccggcttg acctgtttct ctgccgctac ctccctcccc 4802
gtctcattcc gttgtctgtg gatggtcatt gcagtttaag agcagaacag atcttttact 4862
ttggccgctt gaaaagctag tgtacctcct ctcagtgttt tggactccat ctctcatcct 4922
ccagtacctt gcttcttact gataattttg ctggaattcc taacttttca atgacatttt 4982
ttttaactat catattgatt gtcctttaaa aaagaaaagt gcatatttat ccaaaatgtg 5042
tatttcttat acgcttttct gtgttatacc atttcctcag cttatctctt ttatatttgt 5102
aggagaaact cccatgtatg gaatcccact gtatgattta taaacagaca atatgtgagt 5162
gcctttgca gaagagggtg tgtttgaaat catcggagtc agccaggagc tgtcaccaag 5222
gaaacgctac ctctctgtcc cttgctgtat gctgatcatc gccagaggtg cttcaccctg 5282
agttttgttt tgtattgttt tctgacagtt tttctgtttt gtttggcaag gaaaggggag 5342
aagggaatcc tcctccaggg tgattttatg atcagtgttg ttgctctagg aagacatttt 5402
tccgtttgct tttgttccaa tgtcaatgtg aacgtccaca tgaaacctac acactgtcat 5462
gcttcatcat tccctctcat ctcaggtaga aggttgacac agttgtaggg ttacagagac 5522
ctatgtaaga attcagaaga cccctgactc atcatttgtg gcagtcccct ataattggtg 5582
catagcagat ggtttccaca tttagatcct ggtttcataa cttcctgtac ttgaagtcta 5642
aaagcagaaa ataaaggaag caagttttct tccatgattt taaattgtga tcgagtttta 5702
aattgatagg agggaacatg tcctaattct tctgtcctga gaagcatgta atgttaatgt 5762
tatatcatat gtatatatat atatgcacta tgtatataca tatatattaa tactggtatt 5822
tttacttaat ctataaaatg tcgttaaaaa gttgtttgtt tttttctttt tttataaata 5882
aactgttgct cgttaaaaaa aaaaaaaa                                    5910

<210> 12
<211> 1579
<212> DNA
<213> Homo sapiens
```

<220>
<221> CDS
<222> (313)...(867)
<223> Human RAP1A, member of RAS oncogene family (RAP1A)
mRNA coding region

<400> 12
atccttcgcg tactgacgga aacactggcg gcacatattg aggccgtatt tcaggatcag 60
ctgccggttc gaacacacgc gagaagagca aagaagttaa aagagaagtg tctgtgtggc 120
tccttccacg tgggtgaagg actgtgccag ctgagaggtg gtagagcagg aagctgcctg 180
agacctccat ttatttggtg aaaaaccgcc gcccttaaga gagcaagtcg agggccgtgt 240
aggagttgga ggagagaaat gaaattttgg aagagtcagc agaagatcgt cagtatttaa 300
acacatcaca tc atg cgt gag tac aag cta gtg gtc ctt ggt tca gga ggc 351
Met Arg Glu Tyr Lys Leu Val Val Leu Gly Ser Gly Gly
1 5 10

gtt ggg aag tct gct ctg aca gtt cag ttt gtt cag gga att ttt gtt 399
Val Gly Lys Ser Ala Leu Thr Val Gln Phe Val Gln Gly Ile Phe Val
15 20 25

gaa aaa tat gac cca acg ata gaa gat tcc tac aga aag caa gtt gaa 447
Glu Lys Tyr Asp Pro Thr Ile Glu Asp Ser Tyr Arg Lys Gln Val Glu
30 35 40 45

gtc gat tgc caa cag tgt atg ctc gaa atc ctg gat act gca ggg aca 495
Val Asp Cys Gln Gln Cys Met Leu Glu Ile Leu Asp Thr Ala Gly Thr
50 55 60

gag caa ttt aca gca atg agg gat ttg tat atg aag aac ggc caa ggt 543
Glu Gln Phe Thr Ala Met Arg Asp Leu Tyr Met Lys Asn Gly Gln Gly
65 70 75

ttt gca cta gta tat tct att aca gct cag tcc acg ttt aac gac tta 591
Phe Ala Leu Val Tyr Ser Ile Thr Ala Gln Ser Thr Phe Asn Asp Leu
80 85 90

cag gac ctg agg gaa cag att tta cgg gtt aag gac acg gaa gat gtt 639
Gln Asp Leu Arg Glu Gln Ile Leu Arg Val Lys Asp Thr Glu Asp Val
95 100 105

cca atg att ttg gtt ggc aat aaa tgt gac ctg gaa gat gag cga gta 687
Pro Met Ile Leu Val Gly Asn Lys Cys Asp Leu Glu Asp Glu Arg Val
110 115 120 125

gtt ggc aaa gag cag ggc cag aat tta gca aga cag tgg tgt aac tgt 735
Val Gly Lys Glu Gln Gly Gln Asn Leu Ala Arg Gln Trp Cys Asn Cys
130 135 140

gcc ttt tta gaa tct tct gca aag tca aag atc aat gtt aat gag ata 783
Ala Phe Leu Glu Ser Ser Ala Lys Ser Lys Ile Asn Val Asn Glu Ile
145 150 155

ttt tat gac ctg gtc aga cag ata aat agg aaa aca cca gtg gaa aag 831
Phe Tyr Asp Leu Val Arg Gln Ile Asn Arg Lys Thr Pro Val Glu Lys
160 165 170

aag aag cct aaa aag aaa tca tgt ctg ctg ctc tag gcccatagtc 877
Lys Lys Pro Lys Lys Lys Ser Cys Leu Leu Leu *
175 180

agcagcagct ctgagccaga ttacaggaat gaagaactgt tgcctaattg gaaagtgcca 937
gcattccaga cttcaaaaat aaaaaatctg aagaggcttc tcctgtttta tatattatgt 997
gaagaattta gatcttatat tggtttgcac aagttccctg gagaaaaaaa ttgctctgtg 1057
tatatctctt ggaaaataag acaatagtat ttctcctttg caatagcagt tataacagat 1117
gtgaaaatat acttgactct aatatgatta tacaaaagag catggatgca tttcaaatgt 1177
tagatattgc tactataatc aaatgatttc atattgatct ttttatcatg atcctaccta 1237
tcaagcacta aaaagttgaa ccattatact ttatatctgt aatgatactg attatgaaat 1297
gtcccctgaa actcattgca gcagataact tttttgagtc attgacttca ttttatattt 1357

aaaaaattat ggaatatcat ctgtcattat attctaatta aaattgtgca taatgctttg 1417
gaaaaatggg tcttttatag gaaaaaaact gggataactg atttctatgg ctttcaaagc 1477
taaaatatat aatatactaa accaactcta atattgcttc ttgtgtttta ctgtcagatt 1537
aaattacagc ttttatggat gattaaattt tagtacattt tc 1579

<210> 13
<211> 3222
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (0)...(0)
<223> Human down-regulator of transcription 1, TBP-binding (negative cofactor 2) (DR1) mRNA coding region

<400> 13
gagcggcttc ctgcaaacct tccctggcat ctggagggac caccgttgcc gcgtcttcgg 60
cttccacgat ctgcgttcgg gctacgcggc cacggcggca gccactgcga ctcccactgt 120
gcctggctct gtccatatta gttcccaggc ggccgtcgcc gttccagcag cggcagcggc 180
agcggcagcg gcggacatgt tgtgaggcgg cggcgcgggt gtctgaagga tggtttggcc 240
gaggcggcgg caacggctgc tggcggcggc ggcagcggca gcggggcctc gggctctata 300
gagccgagcc cgctgggtac ccgcccggta ccgcggcgag gccagtgccc ctggatcttg 360
cctctgctcc gacgccgttg gggaccagtt aggcgacagc gcccgcccct ctgaggagac 420
acgaaggtgg ttccccagcc gctcaaattt ccggaccacc gcgctttccc ctcctcagcc 480
tgggctgtgc tctctctaga atcctcgggc ccccactttc ttcccaaact catcctaaat 540
ctctcacaca cgcgagtgtt cccagccctc aagccagctg ctcctccgtt cattttctgc 600
accctcttcg caaagcaccc cccgggatca ctctccgagg gcgacttttt gagaaatctc 660
ggtggagtag tggaccagag ctggggagtt tttaaaagcc ggggcgcgag aaacaggaag 720
gtactatggc ttcctcgtct ggcaacgatg atgatctcac tatccccaga gctgctatca 780
ataaaatgat caaagagact cttcctaatg tccgggtggc caacgatgct cgagagctgg 840
tggtgaactg ctgcactgaa ttcattcacc ttatatcttc tgaagccaat gagatttgta 900
acaaatcgga aaagaagacc atctcaccag agcatgtcat acaagcacta gaaagtttgg 960
gatttggctc ttacatcagt gaagtaaaag aagtcttgca agagtgtaaa acagtagcat 1020
taaaaagaag aaaggccagt tctcgtttgg aaaaccttgg cattcctgaa gaagagttat 1080
tgagacagca acaagaatta tttgcaaaag ctagacagca acaagcagaa ttggcccaac 1140
aggaatggct tcaaatgcag caagctgccc aacaagccca gcttgctgct gcctcagcca 1200
gtgcatctaa tcaggcggga tcttctcagg atgaagaaga tgatgatgat atctgaaatt 1260
caccagctga gtttctattt cttctataaa tgtttttccc tgcacaacaa aaacagtgaa 1320
agaaatgctt atctgtaatt ttgtatgcat cttggtggac ttgtcattgg tattctaggg 1380
atgtctgcta ttaagtttca tctattgtgt gctatacatg taaaaactgt ctctttgaac 1440
tattgaaaat ttaaggttca gtataatatc aattttgaat ttttaatggt gtttatgaaa 1500
ttttagatag cagcgagtcc ttcgtttgat caataaacag tgttacagat aacttcaagt 1560
ttataaaaat acagtgaaat ttctacaaag ctctaaatct gcatttgcat ttcctctgcc 1620
cttttaacta aactaaaact tgtgaatttt aaattattaa ggggggggtg ctgtgtgaat 1680
cagtagacat tggattgggt tggtgaaaga gttcagttct gtagtatctg aatttgtctt 1740
ttaaaatgag tacatatata ggcaataaat atatatgctc agatcaatat acttgtttag 1800
aaaaacttca agacattcaa aaactaggaa ggagtatgtt taatagtatt tgtataaatt 1860
tggtggttat gtttttttat tttgtttctg ttttgtgtag aggtaaaaac tatagtttta 1920
ttacagcata attcattttg agctccacta tgacatttca aagactgccc agtttggaag 1980
tctgtcatga tttttactct ttcactccaa ttcagtaatt gttgatagta ttacttacct 2040
agtccatcca tactcatatt attcaaatat ataggtggta cttttgaaac aattacattg 2100
gttctcttgg tttaactgag gtttatgaat attcaaacct ttgctggggg aaagaaatga 2160
aagttaatga gcatgcttgc tatgagagag ggatttttaa tttaacttgt agttatagtt 2220
tacttattgt ttttagaatt acttttacat tttcccaact agatggccta gagtccaaca 2280
ttacctttg agatgacatt attgtctcca taattgagtg atagctttaa aaaaaagatt 2340
agttttgctt aagaagttat gttacaactg atcagcccta tatgaattaa ctgatcagcc 2400
ctatatgaaa cataagttgt gttataactt atcagccgta tatggaacat aaatagtttc 2460
tacctgcttg ttagagaagc tttaatttgg ttctaataaa tacagtatgg tagtgtttat 2520
aggaatccag gatgttgaag aaatggcata atgtctatat tttggaaaca gaaaggaaaa 2580
gtcacttaag atagtattaa gtaattaaat tcctatgtca gttgccaaat cttttaaact 2640
tatgtattca ccaagcccaa aaatagattg tggctcccag gattccaatt ttaattggag 2700
agctaagtaa gtaaagtttt ataactgtta ggtttcttaa tgatcatatt ttgcagtttt 2760
agtaaaaggg aaatattgtt atacatttat taaatatact tcccccatga agtgaaaagg 2820
ttaattttgc tgaatgtttt aagttgaagt tacttcatgg atgtcatacc catgaagtgc 2880
atttggatga gatagaagaa attgtttttt aaaaagttta agtaccaaag gtagtctagt 2940
ctagaacgat aagttaatac gtgttggctt ttctaatttg tactgtaaca tccttatact 3000

ttctatttta agtatatctg tttcttaagt aaacaactta gatattttcc acacctttt 3060
ttttttttct gatgcagagt tcaggttaat attttactgc atctgataat gtattatacg 3120
tttgaagcct agtgactttt cattttgaca ttcttgtgat ttcatatgct gtattcttca 3180
agcaataaaa ttgtgatgtg ttttataaaa aaaaaaaaaa aa 3222

<210> 14
<211> 3541
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (76)...(3504)
<223> Human Janus kinase 1 (JAK1) mRNA coding region

<400> 14
tccagtttgc ttcttggaga acactggaca gctgaataaa tgcagtatct aaatataaaa 60
gaggactgca atgcc atg gct ttc tgt gct aaa atg agg agc tcc aag aag 111
Met Ala Phe Cys Ala Lys Met Arg Ser Ser Lys Lys
1 5 10

act gag gtg aac ctg gag gcc cct gag cca ggg gtg gaa gtg atc ttc 159
Thr Glu Val Asn Leu Glu Ala Pro Glu Pro Gly Val Glu Val Ile Phe
15 20 25

tat ctg tcg gac agg gag ccc ctc cgg ctg ggc agt gga gag tac aca 207
Tyr Leu Ser Asp Arg Glu Pro Leu Arg Leu Gly Ser Gly Glu Tyr Thr
30 35 40

gca gag gaa ctg tgc atc agg gct gca cag gca tgc cgt atc tct cct 255
Ala Glu Glu Leu Cys Ile Arg Ala Ala Gln Ala Cys Arg Ile Ser Pro
45 50 55 60

ctt tgt cac aac ctc ttt gcc ctg tat gac gag aac acc aag ctc tgg 303
Leu Cys His Asn Leu Phe Ala Leu Tyr Asp Glu Asn Thr Lys Leu Trp
65 70 75

tat gct cca aat cgc acc atc acc gtt gat gac aag atg tcc ctc cgg 351
Tyr Ala Pro Asn Arg Thr Ile Thr Val Asp Asp Lys Met Ser Leu Arg
80 85 90

ctc cac tac cgg atg agg ttc tat ttc acc aat tgg cat gga acc aac 399
Leu His Tyr Arg Met Arg Phe Tyr Phe Thr Asn Trp His Gly Thr Asn
95 100 105

gac aat gag cag tca gtg tgg cgt cat tct cca aag aag cag aaa aat 447
Asp Asn Glu Gln Ser Val Trp Arg His Ser Pro Lys Lys Gln Lys Asn
110 115 120

ggc tac gag aaa aaa aag att cca gat gca acc cct ctc ctt gat gcc 495
Gly Tyr Glu Lys Lys Lys Ile Pro Asp Ala Thr Pro Leu Leu Asp Ala
125 130 135 140

agc tca ctg gag tat ctg ttt gct cag gga cag tat gat ttg gtg aaa 543
Ser Ser Leu Glu Tyr Leu Phe Ala Gln Gly Gln Tyr Asp Leu Val Lys
145 150 155

tgc ctg gct cct att cga gac ccc aag acc gag cag gat gga cat gat 591
Cys Leu Ala Pro Ile Arg Asp Pro Lys Thr Glu Gln Asp Gly His Asp
160 165 170

att gag aac gag tgt cta ggg atg gct gtc ctg gcc atc tca cac tat 639
Ile Glu Asn Glu Cys Leu Gly Met Ala Val Leu Ala Ile Ser His Tyr
175 180 185

gcc atg atg aag aag atg cag ttg cca gaa ctg ccc aag gac atc agc 687
Ala Met Met Lys Lys Met Gln Leu Pro Glu Leu Pro Lys Asp Ile Ser
190 195 200

```
tac aag cga tat att cca gaa aca ttg aat aag tcc atc aga cag agg   735
Tyr Lys Arg Tyr Ile Pro Glu Thr Leu Asn Lys Ser Ile Arg Gln Arg
205                 210                 215                 220

aac ctt ctc acc agg atg cgg ata aat aat gtt ttc aag gat ttc cta   783
Asn Leu Leu Thr Arg Met Arg Ile Asn Asn Val Phe Lys Asp Phe Leu
                225                 230                 235

aag gaa ttt aac aac aag acc att tgt gac agc agc gtg tcc acg cat   831
Lys Glu Phe Asn Asn Lys Thr Ile Cys Asp Ser Ser Val Ser Thr His
            240                 245                 250

gac ctg aag gtg aaa tac ttg gct acc ttg gaa act ttg aca aaa cat   879
Asp Leu Lys Val Lys Tyr Leu Ala Thr Leu Glu Thr Leu Thr Lys His
        255                 260                 265

tac ggt gct gaa ata ttt gag act tcc atg tta ctg att tca tca gaa   927
Tyr Gly Ala Glu Ile Phe Glu Thr Ser Met Leu Leu Ile Ser Ser Glu
    270                 275                 280

aat gag atg aat tgg ttt cat tcg aat gac ggt gga aac gtt ctc tac   975
Asn Glu Met Asn Trp Phe His Ser Asn Asp Gly Gly Asn Val Leu Tyr
285                 290                 295                 300

tac gaa gtg atg gtg act ggg aat ctt gga atc cag tgg agg cat aaa   1023
Tyr Glu Val Met Val Thr Gly Asn Leu Gly Ile Gln Trp Arg His Lys
                305                 310                 315

cca aat gtt gtt tct gtt gaa aag gaa aaa aat aaa ctg aag cgg aaa   1071
Pro Asn Val Val Ser Val Glu Lys Glu Lys Asn Lys Leu Lys Arg Lys
            320                 325                 330

aaa ctg gaa aat aaa gac aag aag gat gag gag aaa aac aag atc cgg   1119
Lys Leu Glu Asn Lys Asp Lys Lys Asp Glu Glu Lys Asn Lys Ile Arg
        335                 340                 345

gaa gag tgg aac aat ttt tca ttc ttc cct gaa atc act cac att gta   1167
Glu Glu Trp Asn Asn Phe Ser Phe Phe Pro Glu Ile Thr His Ile Val
    350                 355                 360

ata aag gag tct gtg gtc agc att aac aag cag gac aac aag aaa atg   1215
Ile Lys Glu Ser Val Val Ser Ile Asn Lys Gln Asp Asn Lys Lys Met
365                 370                 375                 380

gaa ctg aag ctc tct tcc cac gag gag gcc ttg tcc ttt gtg tcc ctg   1263
Glu Leu Lys Leu Ser Ser His Glu Glu Ala Leu Ser Phe Val Ser Leu
                385                 390                 395

gta gat ggc tac ttc cgg ctc aca gca gat gcc cat cat tac ctc tgc   1311
Val Asp Gly Tyr Phe Arg Leu Thr Ala Asp Ala His His Tyr Leu Cys
            400                 405                 410

acc gac gtg gcc ccc ccg ttg atc gtc cac aac ata cag aat ggc tgt   1359
Thr Asp Val Ala Pro Pro Leu Ile Val His Asn Ile Gln Asn Gly Cys
        415                 420                 425

cat ggt cca atc tgt aca gaa tac gcc atc aat aaa ttg cgg caa gaa   1407
His Gly Pro Ile Cys Thr Glu Tyr Ala Ile Asn Lys Leu Arg Gln Glu
    430                 435                 440

gga agc gag gag ggg atg tac gtg ctg agg tgg agc tgc acc gac ttt   1455
Gly Ser Glu Glu Gly Met Tyr Val Leu Arg Trp Ser Cys Thr Asp Phe
445                 450                 455                 460

gac aac atc ctc atg acc gtc acc tgc ttt gag aag tct gag cag gtg   1503
Asp Asn Ile Leu Met Thr Val Thr Cys Phe Glu Lys Ser Glu Gln Val
                465                 470                 475
```

```
cag ggt gcc cag aag cag ttc aag aac ttt cag atc gag gtg cag aag   1551
Gln Gly Ala Gln Lys Gln Phe Lys Asn Phe Gln Ile Glu Val Gln Lys
            480                 485                 490

ggc cgc tac agt ctg cac ggt tcg gac cgc agc ttc ccc agc ttg gga   1599
Gly Arg Tyr Ser Leu His Gly Ser Asp Arg Ser Phe Pro Ser Leu Gly
        495                 500                 505

gac ctc atg agc cac ctc aag aag cag atc ctg cgc acg gat aac atc   1647
Asp Leu Met Ser His Leu Lys Lys Gln Ile Leu Arg Thr Asp Asn Ile
    510                 515                 520

agc ttc atg cta aaa cgc tgc tgc cag ccc aag ccc cga gaa atc tcc   1695
Ser Phe Met Leu Lys Arg Cys Cys Gln Pro Lys Pro Arg Glu Ile Ser
525                 530                 535                 540

aac ctg ctg gtg gct act aag aaa gcc cag gag tgg cag ccc gtc tac   1743
Asn Leu Leu Val Ala Thr Lys Lys Ala Gln Glu Trp Gln Pro Val Tyr
                545                 550                 555

ccc atg agc cag ctg agt ttc gat cgg atc ctc aag aag gat ctg gtg   1791
Pro Met Ser Gln Leu Ser Phe Asp Arg Ile Leu Lys Lys Asp Leu Val
            560                 565                 570

cag ggc gag cac ctt ggg aga ggc acg aga aca cac atc tat tct ggg   1839
Gln Gly Glu His Leu Gly Arg Gly Thr Arg Thr His Ile Tyr Ser Gly
        575                 580                 585

acc ctg atg gat tac aag gat gac gaa gga act tct gaa gag aag aag   1887
Thr Leu Met Asp Tyr Lys Asp Asp Glu Gly Thr Ser Glu Glu Lys Lys
    590                 595                 600

ata aaa gtg atc ctc aaa gtc tta gac ccc agc cac agg gat att tcc   1935
Ile Lys Val Ile Leu Lys Val Leu Asp Pro Ser His Arg Asp Ile Ser
605                 610                 615                 620

ctg gcc ttc ttc gag gca gcc agc atg atg aga cag gtc tcc cac aaa   1983
Leu Ala Phe Phe Glu Ala Ala Ser Met Met Arg Gln Val Ser His Lys
                625                 630                 635

cac atc gtg tac ctc tat ggc gtc tgt gtc cgc gac gtg gag aat atc   2031
His Ile Val Tyr Leu Tyr Gly Val Cys Val Arg Asp Val Glu Asn Ile
            640                 645                 650

atg gtg gaa gag ttt gtg gaa ggg ggt cct ctg gat ctc ttc atg cac   2079
Met Val Glu Glu Phe Val Glu Gly Gly Pro Leu Asp Leu Phe Met His
        655                 660                 665

cgg aaa agt gat gtc ctt acc aca cca tgg aaa ttc aaa gtt gcc aaa   2127
Arg Lys Ser Asp Val Leu Thr Thr Pro Trp Lys Phe Lys Val Ala Lys
    670                 675                 680

cag ctg gcc agt gcc ctg agc tac ttg gag gat aaa gac ctg gtc cat   2175
Gln Leu Ala Ser Ala Leu Ser Tyr Leu Glu Asp Lys Asp Leu Val His
685                 690                 695                 700

gga aat gtg tgt act aaa aac ctc ctc ctg gcc cgt gag gga atc gac   2223
Gly Asn Val Cys Thr Lys Asn Leu Leu Leu Ala Arg Glu Gly Ile Asp
                705                 710                 715

agt gag tgt ggc cca ttc atc aag ctc agt gac ccc ggc atc ccc att   2271
Ser Glu Cys Gly Pro Phe Ile Lys Leu Ser Asp Pro Gly Ile Pro Ile
            720                 725                 730

acg gtg ctg tct agg caa gaa tgc att gaa cga atc cca tgg att gct   2319
Thr Val Leu Ser Arg Gln Glu Cys Ile Glu Arg Ile Pro Trp Ile Ala
        735                 740                 745
```

```
cct gag tgt gtt gag gac tcc aag aac ctg agt gtg gct gct gac aag   2367
Pro Glu Cys Val Glu Asp Ser Lys Asn Leu Ser Val Ala Ala Asp Lys
    750                 755                 760

tgg agc ttt gga acc acg ctc tgg gaa atc tgc tac aat ggc gag atc   2415
Trp Ser Phe Gly Thr Thr Leu Trp Glu Ile Cys Tyr Asn Gly Glu Ile
765                 770                 775                 780

ccc ttg aaa gac aag acg ctg att gag aaa gag aga ttc tat gaa agc   2463
Pro Leu Lys Asp Lys Thr Leu Ile Glu Lys Glu Arg Phe Tyr Glu Ser
                785                 790                 795

cgg tgc agg cca gtg aca cca tca tgt aag gag ctg gct gac ctc atg   2511
Arg Cys Arg Pro Val Thr Pro Ser Cys Lys Glu Leu Ala Asp Leu Met
            800                 805                 810

acc cgc tgc atg aac tat gac ccc aat cag agg cct ttc ttc cga gcc   2559
Thr Arg Cys Met Asn Tyr Asp Pro Asn Gln Arg Pro Phe Phe Arg Ala
        815                 820                 825

atc atg aga gac att aat aag ctt gaa gag cag aat cca gat att gtt   2607
Ile Met Arg Asp Ile Asn Lys Leu Glu Glu Gln Asn Pro Asp Ile Val
    830                 835                 840

tcc aga aaa aaa aac cag cca act gaa gtg gac ccc aca cat ttt gag   2655
Ser Arg Lys Lys Asn Gln Pro Thr Glu Val Asp Pro Thr His Phe Glu
845                 850                 855                 860

aag cgc ttc cta aag agg atc cgt gac ttg gga gag ggc cac ttt ggg   2703
Lys Arg Phe Leu Lys Arg Ile Arg Asp Leu Gly Glu Gly His Phe Gly
                865                 870                 875

aag gtt gag ctc tgc agg tat gac ccc gaa gac aat aca ggg gag cag   2751
Lys Val Glu Leu Cys Arg Tyr Asp Pro Glu Asp Asn Thr Gly Glu Gln
            880                 885                 890

gtg gct gtt aaa tct ctg aag cct gag agt gga ggt aac cac ata gct   2799
Val Ala Val Lys Ser Leu Lys Pro Glu Ser Gly Gly Asn His Ile Ala
        895                 900                 905

gat ctg aaa aag gaa atc gag atc tta agg aac ctc tat cat gag aac   2847
Asp Leu Lys Lys Glu Ile Glu Ile Leu Arg Asn Leu Tyr His Glu Asn
    910                 915                 920

att gtg aag tac aaa gga atc tgc aca gaa gac gga gga aat ggt att   2895
Ile Val Lys Tyr Lys Gly Ile Cys Thr Glu Asp Gly Gly Asn Gly Ile
925                 930                 935                 940

aag ctc atc atg gaa ttt ctg cct tcg gga agc ctt aag gaa tat ctt   2943
Lys Leu Ile Met Glu Phe Leu Pro Ser Gly Ser Leu Lys Glu Tyr Leu
                945                 950                 955

cca aag aat aag aac aaa ata aac ctc aaa cag cag cta aaa tat gcc   2991
Pro Lys Asn Lys Asn Lys Ile Asn Leu Lys Gln Gln Leu Lys Tyr Ala
            960                 965                 970

gtt cag att tgt aag ggg atg gac tat ttg ggt tct cgg caa tac gtt   3039
Val Gln Ile Cys Lys Gly Met Asp Tyr Leu Gly Ser Arg Gln Tyr Val
        975                 980                 985

cac cgg gac ttg gca gca aga aat gtc ctt gtt gag agt gaa cac caa   3087
His Arg Asp Leu Ala Ala Arg Asn Val Leu Val Glu Ser Glu His Gln
    990                 995                 1000

gtg aaa att gga gac ttc ggt tta acc aaa gca att gaa acc gat aag   3135
Val Lys Ile Gly Asp Phe Gly Leu Thr Lys Ala Ile Glu Thr Asp Lys
1005                1010                1015                1020
```

gag tat tac acc gtc aag gat gac cgg gac agc cct gtg ttt tgg tat 3183
Glu Tyr Tyr Thr Val Lys Asp Asp Arg Asp Ser Pro Val Phe Trp Tyr
1025 1030 1035

gct cca gaa tgt tta atg caa tct aaa ttt tat att gcc tct gac gtc 3231
Ala Pro Glu Cys Leu Met Gln Ser Lys Phe Tyr Ile Ala Ser Asp Val
1040 1045 1050

tgg tct ttt gga gtc act ctg cat gag ctg ctg act tac tgt gat tca 3279
Trp Ser Phe Gly Val Thr Leu His Glu Leu Leu Thr Tyr Cys Asp Ser
1055 1060 1065

gat tct agt ccc atg gct ttg ttc ctg aaa atg ata ggc cca acc cat 3327
Asp Ser Ser Pro Met Ala Leu Phe Leu Lys Met Ile Gly Pro Thr His
1070 1075 1080

ggc cag atg aca gtc aca aga ctt gtg aat acg tta aaa gaa gga aaa 3375
Gly Gln Met Thr Val Thr Arg Leu Val Asn Thr Leu Lys Glu Gly Lys
1085 1090 1095 1100

cgc ctg ccg tgc cca cct aac tgt cca gat gag gtt tat cag ctt atg 3423
Arg Leu Pro Cys Pro Pro Asn Cys Pro Asp Glu Val Tyr Gln Leu Met
1105 1110 1115

aga aaa tgc tgg gaa ttc caa cca tcc aat cgg aca agc ttt cag aac 3471
Arg Lys Cys Trp Glu Phe Gln Pro Ser Asn Arg Thr Ser Phe Gln Asn
1120 1125 1130

ctt att gaa gga ttt gaa gca ctt tta aaa taa gaagcatgaa taacatttaa 3524
Leu Ile Glu Gly Phe Glu Ala Leu Leu Lys *
1135 1140

attccacaga ttatcaa 3541

<210> 15
<211> 1596
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (68)...(1423)
<223> Human tubulin, alpha, ubiquitous (K-ALPHA-1) mRNA coding region

<400> 15
tgtcggggac ggtaaccggg acccgtgctc tgctcctgtc gccttcgcct cctgaatccc 60
tagccat atg cgt gag tgc atc tcc atc cac gtt ggc cag gct ggt gtc 109
Met Arg Glu Cys Ile Ser Ile His Val Gly Gln Ala Gly Val
1 5 10

cag att ggc aat gcc tgc tgg gag ctc tac tgc ctg gaa cac ggc atc 157
Gln Ile Gly Asn Ala Cys Trp Glu Leu Tyr Cys Leu Glu His Gly Ile
15 20 25 30

cag ccc gat ggc cag atg cca agt gac aag acc att ggg gga gga gat 205
Gln Pro Asp Gly Gln Met Pro Ser Asp Lys Thr Ile Gly Gly Gly Asp
35 40 45

gac tcc ttc aac acc ttc ttc agt gag acg ggc gct ggc aag cac gtg 253
Asp Ser Phe Asn Thr Phe Phe Ser Glu Thr Gly Ala Gly Lys His Val
50 55 60

ccc cgg gct gtg ttt gta gac ttg gaa ccc aca gtc att gat gaa gtt 301
Pro Arg Ala Val Phe Val Asp Leu Glu Pro Thr Val Ile Asp Glu Val
65 70 75

```
cgc act ggc acc tac cgc cag ctc ttc cac cct gag cag ctc atc aca   349
Arg Thr Gly Thr Tyr Arg Gln Leu Phe His Pro Glu Gln Leu Ile Thr
     80                  85                  90

ggc aag gaa gat gct gcc aat aac tat gcc cga ggg cac tac acc att   397
Gly Lys Glu Asp Ala Ala Asn Asn Tyr Ala Arg Gly His Tyr Thr Ile
 95                 100                 105                 110

ggc aag gag atc att gac ctt gtg ttg gac cga att cgc aag ctg gct   445
Gly Lys Glu Ile Ile Asp Leu Val Leu Asp Arg Ile Arg Lys Leu Ala
                115                 120                 125

gac cag tgc acc cgt ctt cag ggc ttc ttg gtt ttc cac agc ttt ggt   493
Asp Gln Cys Thr Arg Leu Gln Gly Phe Leu Val Phe His Ser Phe Gly
            130                 135                 140

ggg gga act ggt tct ggg ttc acc tcc ctg ctc atg gaa cgc ctg tca   541
Gly Gly Thr Gly Ser Gly Phe Thr Ser Leu Leu Met Glu Arg Leu Ser
        145                 150                 155

gtt gat tat ggc aag aaa tcc aag ctg gag ttc tcc att tac ccg gca   589
Val Asp Tyr Gly Lys Lys Ser Lys Leu Glu Phe Ser Ile Tyr Pro Ala
    160                 165                 170

ccc cag gtt tcc aca gct gta gtt gag ccc tac aac tcc atc ctc acc   637
Pro Gln Val Ser Thr Ala Val Val Glu Pro Tyr Asn Ser Ile Leu Thr
175                 180                 185                 190

acc cac acc acc ctg gag cac tct gat tgt gcc ttc atg gta gac aat   685
Thr His Thr Thr Leu Glu His Ser Asp Cys Ala Phe Met Val Asp Asn
                195                 200                 205

gag gcc atc tat gac atc tgt cgt aga aac ctc gat atc gag cgc cca   733
Glu Ala Ile Tyr Asp Ile Cys Arg Arg Asn Leu Asp Ile Glu Arg Pro
            210                 215                 220

acc tac act aac ctt aac cgc ctt att agc cag att gtg tcc tcc atc   781
Thr Tyr Thr Asn Leu Asn Arg Leu Ile Ser Gln Ile Val Ser Ser Ile
        225                 230                 235

act gct tcc ctg aga ttt gat gga gcc ctg aat gtt gac ctg aca gaa   829
Thr Ala Ser Leu Arg Phe Asp Gly Ala Leu Asn Val Asp Leu Thr Glu
    240                 245                 250

ttc cag acc aac ctg gtc ccc tac ccc cgc atc cac ttc cct ctg gcc   877
Phe Gln Thr Asn Leu Val Pro Tyr Pro Arg Ile His Phe Pro Leu Ala
255                 260                 265                 270

aca tat gcc cct gtc atc tct gct gag aaa gcc tac cat gaa cag ctt   925
Thr Tyr Ala Pro Val Ile Ser Ala Glu Lys Ala Tyr His Glu Gln Leu
                275                 280                 285

tct gta gca gac atc acc aat gct tgc ttt gag cca gcc aac cag atg   973
Ser Val Ala Asp Ile Thr Asn Ala Cys Phe Glu Pro Ala Asn Gln Met
            290                 295                 300

gtg aaa tgt gac cct ggc cat ggt aaa tac atg gct tgc tgc ctg ttg   1021
Val Lys Cys Asp Pro Gly His Gly Lys Tyr Met Ala Cys Cys Leu Leu
        305                 310                 315

tac cgt ggt gac gtg gtt ccc aaa gat gtc aat gct gcc att gcc acc   1069
Tyr Arg Gly Asp Val Val Pro Lys Asp Val Asn Ala Ala Ile Ala Thr
    320                 325                 330

atc aaa acc aag cgc acg atc cag ttt gtg gat tgg tgc ccc act ggc   1117
Ile Lys Thr Lys Arg Thr Ile Gln Phe Val Asp Trp Cys Pro Thr Gly
335                 340                 345                 350
```

```
ttc aag gtt ggc atc aac tac cag cct ccc act gtg gtg cct ggt gga   1165
Phe Lys Val Gly Ile Asn Tyr Gln Pro Pro Thr Val Val Pro Gly Gly
                355                 360                 365

gac ctg gcc aag gta cag aga gct gtg tgc atg ctg agc aac acc aca   1213
Asp Leu Ala Lys Val Gln Arg Ala Val Cys Met Leu Ser Asn Thr Thr
            370                 375                 380

gcc att gct gag gcc tgg gct cgc ctg gac cac aag ttt gac ctg atg   1261
Ala Ile Ala Glu Ala Trp Ala Arg Leu Asp His Lys Phe Asp Leu Met
        385                 390                 395

tat gcc aag cgt gcc ttt gtt cac tgg tac gtg ggt gag ggg atg gag   1309
Tyr Ala Lys Arg Ala Phe Val His Trp Tyr Val Gly Glu Gly Met Glu
    400                 405                 410

gaa ggc gag ttt tca gag gcc cgt gaa gat atg gct gcc ctt gag aag   1357
Glu Gly Glu Phe Ser Glu Ala Arg Glu Asp Met Ala Ala Leu Glu Lys
415                 420                 425                 430

gat tat gag gag gtt ggt gtg gat tct gtt gaa gga gag ggt gag gaa   1405
Asp Tyr Glu Glu Val Gly Val Asp Ser Val Glu Gly Glu Gly Glu Glu
                435                 440                 445

gaa gga gag gaa tac taa ttatccattc cttttggccc tgcagcatgt          1453
Glu Gly Glu Glu Tyr  *
            450

catgctccca gaatttcagc ttcagcttaa ctgacagatg ttaaagcttt ctggttagat 1513
tgttttcact tggtgatcat gtcttttcca tgtgtacctg taatattttt ccatcatatc 1573
tcaaagtaaa gtcattaaca tca                                          1596

<210> 16
<211> 1746
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (60)...(1040)
<223> Human zinc finger protein 36, C3H type, homolog
      (mouse) (ZFP36) mRNA coding region

<400> 16
gagcctgact tcagcgctcc cactctcggc cgacacccct catggccaac cgttacacc   59
atg gat ctg act gcc atc tac gag agc ctc ctg tcg ctg agc cct gac   107
Met Asp Leu Thr Ala Ile Tyr Glu Ser Leu Leu Ser Leu Ser Pro Asp
 1               5                  10                  15

gtg ccc gtg cca tcc gac cat gga ggg act gag tcc agc cca ggc tgg   155
Val Pro Val Pro Ser Asp His Gly Gly Thr Glu Ser Ser Pro Gly Trp
            20                  25                  30

ggc tcc tcg gga ccc tgg agc ctg agc ccc tcc gac tcc agc ccg tct   203
Gly Ser Ser Gly Pro Trp Ser Leu Ser Pro Ser Asp Ser Ser Pro Ser
        35                  40                  45

ggg gtc acc tcc cgc ctg cct ggc cgc tcc acc agc cta gtg gag ggc   251
Gly Val Thr Ser Arg Leu Pro Gly Arg Ser Thr Ser Leu Val Glu Gly
    50                  55                  60

cgc agc tgt ggc tgg gtg ccc cca ccc cct ggc ttc gca ccg ctg gct   299
Arg Ser Cys Gly Trp Val Pro Pro Pro Pro Gly Phe Ala Pro Leu Ala
65                  70                  75                  80

ccc cgc ctg ggc cct gag ctg tca ccc tca ccc act tcg ccc act gca   347
Pro Arg Leu Gly Pro Glu Leu Ser Pro Ser Pro Thr Ser Pro Thr Ala
                85                  90                  95
```

```
acc tcc acc acc ccc tcg cgc tac aag act gag cta tgt cgg acc ttc   395
Thr Ser Thr Thr Pro Ser Arg Tyr Lys Thr Glu Leu Cys Arg Thr Phe
            100                 105                 110

tca gag agt ggg cgc tgc cgc tac ggg gcc aag tgc cag ttt gcc cat   443
Ser Glu Ser Gly Arg Cys Arg Tyr Gly Ala Lys Cys Gln Phe Ala His
        115                 120                 125

ggc ctg ggc gag ctg cgc cag gcc aat cgc cac ccc aaa tac aag acg   491
Gly Leu Gly Glu Leu Arg Gln Ala Asn Arg His Pro Lys Tyr Lys Thr
    130                 135                 140

gaa ctc tgt cac aag ttc tac ctc cag ggc cgc tgc ccc tac ggc tct   539
Glu Leu Cys His Lys Phe Tyr Leu Gln Gly Arg Cys Pro Tyr Gly Ser
145                 150                 155                 160

cgc tgc cac ttc atc cac aac cct agc gaa gac ctg gcg gcc ccg ggc   587
Arg Cys His Phe Ile His Asn Pro Ser Glu Asp Leu Ala Ala Pro Gly
                165                 170                 175

cac cct cct gtg ctt cgc cag agc atc agc ttc tcc ggc ctg ccc tct   635
His Pro Pro Val Leu Arg Gln Ser Ile Ser Phe Ser Gly Leu Pro Ser
            180                 185                 190

ggc cgc cgg acc tca cca cca cca cca ggc ctg gcc ggc cct tcc ctg   683
Gly Arg Arg Thr Ser Pro Pro Pro Pro Gly Leu Ala Gly Pro Ser Leu
        195                 200                 205

tcc tcc agc tcc ttc tcg ccc tcc agc tcc cca cca cca cct ggg gac   731
Ser Ser Ser Ser Phe Ser Pro Ser Ser Ser Pro Pro Pro Pro Gly Asp
    210                 215                 220

ctt cca ctg tca ccc tct gcc ttc tct gct gcc cct ggc acc ccc ctg   779
Leu Pro Leu Ser Pro Ser Ala Phe Ser Ala Ala Pro Gly Thr Pro Leu
225                 230                 235                 240

gct cga aga gac ccc acc cca gtc tgt tgc ccc tcc tgc cga agg gcc   827
Ala Arg Arg Asp Pro Thr Pro Val Cys Cys Pro Ser Cys Arg Arg Ala
                245                 250                 255

act cct atc agc gtc tgg ggg ccc ttg ggt ggc ctg gtt cgg acc ccc   875
Thr Pro Ile Ser Val Trp Gly Pro Leu Gly Gly Leu Val Arg Thr Pro
            260                 265                 270

tct gta cag tcc ctg gga tcc gac cct gat gaa tat gcc agc agc ggc   923
Ser Val Gln Ser Leu Gly Ser Asp Pro Asp Glu Tyr Ala Ser Ser Gly
        275                 280                 285

agc agc ctg ggg ggc tct gac tct ccc gtc ttc gag gcg gga gtt ttt   971
Ser Ser Leu Gly Gly Ser Asp Ser Pro Val Phe Glu Ala Gly Val Phe
    290                 295                 300

gca cca ccc cag ccc gtg gca gcc ccc cgg cga ctc ccc atc ttc aat   1019
Ala Pro Pro Gln Pro Val Ala Ala Pro Arg Arg Leu Pro Ile Phe Asn
305                 310                 315                 320

cgc atc tct gtt tct gag tga caaagtgact gcccggtcag atcagctgga      1070
Arg Ile Ser Val Ser Glu  *
                325

tctcagcggg gagccacgtc tcttgcactg tggtctctgc atggacccca gggctgtggg 1130
gacttggggg acagtaatca agtaatcccc ttttccagaa tgcattaacc cactcccctg 1190
acctcacgct ggggcaggtc cccaagtgtg caagctcagt attcatgatg gtgggggatg 1250
gagtgtcttc cgaggttctt gggggaaaaa aaattgtagc atatttaagg gaggcaatga 1310
accctctccc ccacctcttc cctgcccaaa tctgtctcct agaatcttat gtgctgtgaa 1370
taataggcct tcactgcccc tccagttttt atagacctga ggttccagtg tctcctggta 1430
actggaacct ctcctgaggg ggaatcctgg tgctcaaatt accctccaaa agcaagtagc 1490
```

caaagccgtt gccaaacccc acccataaat caatgggccc tttatttatg acgactttat 1550
ttattctaat atgattttat agtatttata tatattgggt cgtctgcttc ccttgtattt 1610
ttcttccttt ttttgtaata ttgaaaacga cgatataatt attataagta gactataata 1670
tatttagtaa tatatattat taccttaaaa gtctattttt gtgttttggg catttttaaa 1730
taaacaatct gagtgt 1746

<210> 17
<211> 154394
<212> DNA
<213> Homo sapiens

<220>
<221> allele
<222> (1)...(154394)
<223> Human nuclear transcription factor Y, alpha; DNA sequence from clone RP1-34B21 on chromosome 6p12.1-21.1; accession number AL031778

<400> 17
gatcaaaggg tcctccctgg ccacttccac ctacaggagg tcaaaaatgg agagagggaa 60
aacaggttga tatcctgaac cttatggggc tgggcttcat ccattccttt catgaatatg 120
cacagacaca tgtgcaaaca cacacataca ctgagctgta ccatgagcaa ggcactgtgc 180
cgagtgtcaa caattttaaa agatttcacc cagctcctgc ctttgaggag tgcatggtcc 240
agaggaggaa gcacgtgata gcagtgtagt gtgaatggtg ctggaatagg ctgatggaac 300
ctcatgaatg cacggagaac agaggcctgg tgccacccag tgtggacgag aggatggcat 360
agcaggacta agaggtagcc aggagccagc tcatgaaagg ccttatatgc tgagccaatg 420
ctattgagat tggactttgt cttaagagca atggggagca actgagcagt tttgagcagg 480
acagtggaat tatagaattt attctttgaa aatattcctc tggcttccgt gtggaggaag 540
gattagaggt gggtggccag tgagggcttt gcagttatcc agcttagcag gatggagcac 600
tgccaaccca accagagcaa atggggaggc caccagcctc accctgaccc tggacatgcc 660
caccatgatg ggaagacaca gactgttcca caacaacccc ttggacccca gcccagccct 720
ggaagaacca tgtaccttga ctggcaggga agcctccact ccgggcctgg gcacacatgg 780
gagggtaggg ccccatgctt ggtatgggct caggctagcg ctgctgccct ggagtcagag 840
ctgtgtagag aggggcaagc cccactccca gagagaagga gccacatgcc gtgatggcag 900
gtggtcggtg cagaccctca gctgttgggg gagtggtcgg gatgcctgaa atgtctggga 960
ccgaggttct gggtgcagcc tggagagttg gggctgtgcg ttcttgttgc cattgttaca 1020
ttggctcata ttgctgagtc cttattcatt aggctgttgg gtacttttag acacacacac 1080
acaccagtct ggagcacaga gaaaactgtc ataggcactc aaaattagag caagttagat 1140
aaaggggcca gtaagtacag acctcacatg cccccagtgg tggattcagg ggtcactgat 1200
tctatccatt cctacagatg aacaggataa atatacctcc gaccccgtcc agtttttcta 1260
tcccatttaa tcactcctca gctgagaaag ccagaaactc attcctgacg tggctgacaa 1320
atgctgggga aatctttggt tttcttagag tgagcctctc tttgtaacca gagagcaaga 1380
gaaggaacag ggccttaaaa tcacttcaag tggcctgtgc ctgatcctga ggtccagaga 1440
aggagaatga cttattcaag atcacagttt aatcatacat gcctttatcc attcactcag 1500
caaacacagt tcaaacacct accacttgcc aaaccttcta gatagttatt accaacataa 1560
ccaagcaaag tatatggaat gccagatggc aatgggtaca ggagagaaaa ataaattgga 1620
caaggggata gacagtgctt tggaggtaga ggcagcttta agtagggtca cactagagtg 1680
aagatcgcaa ggaggtgaag cttattctgg gggaagaata ttctaggaaa aggggacagt 1740
gagtgcagag tccctaagac aaggcatgct ggggcgccgg aagaaaagca gaggatggtg 1800
tagctggaga ggaggtagcc aggaggtgag ttgtaggaga ttaagtcaga gatgtgcgag 1860
gtatgaggga gaagttcttt tgtagagact tcaccttgac tctagtcgga tgggagccca 1920
tgtgggctct gagcagaaaa ggaacagctc tgacttagga tttagttggc tgctgtgctg 1980
tggatagaca gacagttggc aagcctgaag tcaaagagtc catgtaggag atccaggcaa 2040
gaaataatgg ttgcttgaac caaggaggca gtagtggagg tgggaagagg aaatcacaca 2100
gagtctggcc agattatgga ggtaaaggca acagtattga ctaaaggacc aaatgcaaga 2160
tgtgagaaga acagagtcag aatgacccca aggttttgt cccatgctgc tagaaggaag 2220
acgtttccca ttagccatgt tggaggatac cacaggagaa tgggtctctg tttgagcatc 2280
ttattcaaga tgccattcaa catctagtga aggtggacag gagacagtgg acacaagtca 2340
ggacctcagg gaccaggtca caggcagagc tagaccttga acttcaagat tcacagatca 2400
cactgcttct gactgaggag tgacagaagt gccagagcaa tctcaccagc tctggaatgt 2460
tcatcacttg acggctgggc tggcaatgaa gaagctccat gcagtctttg ggacaacact 2520
gcaccaagag accacagcaa caggggagct cgcagagtag aacactggca ttcaacccaa 2580
agcctcactg tttccagata caagtgaagg taaattccct gcccctcccc ctgccccacc 2640
acattcatcc atccttgaag aactcctggg agctcactgg gaaactcact gagcagtgag 2700
taatatggtt ttgcttaagc cttgctcaag tagcagaata agcaagtttg actaaaattc 2760
tctagattca caaatcccaa agccctaaac tacagaaaac agactagtca agagagagga 2820
agctgtctgc tggctatttg tggagcatca cccaatcaat gaacaagtat gcatagactg 2880
ctgggtgcag agggaggggt gtttaaggga tgtcttaatc gggttttcca gaagcagatc 2940

ctgagacaag gatttggttg caagtagtta tttagaaagt gaacccagga agcaccagta 3000
ggagaatgag gaagcaagac aggtaatgaa tgtattagtg aactgatcac cactgtgagc 3060
aattaggctc aattctactc taggaggctg tacagaatgt atctcagggt tgtcccacca 3120
aggggcaagg aaactgaggt acttatccac taactctctt ttgttgttga gtgttcttcc 3180
cacaaacctt aacttccagg cacttccagt ttgtcccttt attaagctga ccaatctcct 3240
gaggccagag aaagccttcc agcagagacc agcaggtgtt tccagtagga cactgtctgt 3300
gtgtactgaa accagagtgt catagggaat tagaaggacg cagcaccaac cataatgggt 3360
ttcacaggaa ctgcctggtc tccacaaata gggactctaa ttttggtctg gattctaaga 3420
accaccttca ccccagtaaa taggactgag atgactttta tcattcctgt aagcagagat 3480
agaaatgcca gagcaaagtc tcattggtcc acacagaaag aaggaagcct cggtgctctt 3540
taattggaga ccagagctgt ggcaattccc aaccagtgtc agaattttgc aatgtgttgg 3600
agacaggcag ccctccctag gaatctactg agagacccag atctttgggc ccttagtgag 3660
tgtttgagta aataggtaag cagtggctgc ggctcaggca ggagggtcct ggaagttaat 3720
gtcccagcac agagcttcag cccagaccac agtgccaaca tcctagccct tctggttaat 3780
aattatccct aattccttag cgtgggaggc ctggagatga aaatcacaac tctccatgtc 3840
ctcatcagtc tgttgtatgt gcatgtgtac cagataccta catgcaacct catgaaattc 3900
cagacattct catcaacaaa tcccctttgtc atcttcataa aatccaaagt taaagggccc 3960
accctaagaa ttgtgactca tagattcctg gatggatcaa ctctatgtga ctattagagc 4020
tagttttctc atgcccatat tgggcaaaac ctggtaaaca gcacccctgt ctctccctcc 4080
ccaaaattct gtctggatga gcagtcccctt atgtaacaag ctaaaacctt tacaactgac 4140
catatgtcag gaaacagtaa ggtgtttaca agatacatga gaggggagtc cctgtctttc 4200
aagagctcct gagtcctgcc aatgaacacc ttaagtacct gccctttagg ggatacttgc 4260
tgaaatcatt ccttgaatag aatgttagaa tggcagaatg acagtggctg ccaccgatag 4320
gtcagagcat taaggactgg gtcttttgac cgaccctagg atctctcttc agtggaactc 4380
tgcccccacc aaccctattc agcctcctcc tctatgctca ggcagctact gcttctcagc 4440
catcagtaca ggctacctca ttcaagttga atttgcaatg gctgttgtgg ttttttgttt 4500
ttctgaccat gtggggaact ctcatatagg ctttggaatt atatagtcct ggtttgtcca 4560
aagcactctc cacaaacagg ctgtgtgacc ttcaaatagc tgcttaaccc ctctaagcct 4620
gtcatctgaa agtagaaatg ataatgataa cattagagta aaccacatga aagtgtcttt 4680
gtaggttaaa aattgttgaa tattggcagt ctcataggtt ccacctaaaa cctttgtggg 4740
gttctgggga agattcggta agagaatata tgtattactg ctagggcctc agatctaact 4800
agtttaggac cacagaagaa ggtcacgttc cccttagtgt ctgaaccaca tctcctgtca 4860
aatatctaca ggataggagt tcgaagtcta ttcttacagg attcccagtg atttcaggaa 4920
tccttgtggc ctcttattcc ctcccttgtg ttcccctcat aaagatgttg atgtttattg 4980
tgcgtttact ctctgccaag tattgtgcca ggctctttgt acataaacat cgatgtacct 5040
ctctacccat gtgaggtggg tgcttctact atcatccccc tttcacagat aatgaaactt 5100
tagatatgag ctaagaggaa tgaaaaaatt aaaaataaaa aaaaagcaga taaggaaact 5160
aaagtgcaaa gaagcaaaat gttttgccaa ggtcacaagg acctcagggt ccgtatggtt 5220
gtaagaagca gactaggccc taaggtttct tccatgtctg gcatcctagg gggttaggac 5280
tgccactgag atgctgaaca aatgataagg caggcacttc cccgacaaag aatttgtgtt 5340
ggtggcagga ggagagaaga aagctgcgac caggagagct gagccaggag ctttgccca 5400
cctcatcatc taaatgagca tcagactctc aggtgttgca gataaaatcc cctggcatgt 5460
gatcataggt gacatctacc cagcgctcat gatggtaatg ccaggcacta ctccaagctc 5520
cttacatgat caatcattta accctcacaa ccttggggtc taaacagtac tgttagtccc 5580
attttacaga tgggtaaatt gaggtatgga gctgttaagt cactggccca ggatcacaca 5640
accaataagt gacccagctg gagatggaac acaagcaggc tggctcccaa gtccatgacg 5700
tgaaccatac cagatactgc ctgtcagaag tgtaaacagc cctgtctcat aatcacctcc 5760
tttgatttgg aagcctagac caggggtcag caaactatgg cctgagagat tcagagctaa 5820
atctagctga ccaactgttt ttataaataa cattgcattg aaatacaccc acattcattt 5880
atttattgac tgatttgcaa aaaacaaggg cagcagtgag tagatgcaag agatcatagg 5940
cctgcaaagc ataaaacatc aactttctga ccctttatag ataaaacttg ttgacccctg 6000
acctacagta tgcacctaag gtgtgtccta tgtgtcctaa gatggctccg acacttgcta 6060
tgtgacccca gacaagttgc tttcctgaat ctccatttcc tcatctgtaa aatgtgcttg 6120
tgggaatttg gtgaggaagt gtgtgtatgt gtaagtgcct gacccaaggc aggtgtttga 6180
taagggtttg cagctatcat tgccaatagt atgatgaaaa ttatgactga ttcctatgat 6240
atcactgaag acagggcaga gacctttatg gccactttat gggcaatgaa accctggtgc 6300
agagagagga tatggtgaga ggcagagccc aggtcttccc agtccaagtc ctgcactctg 6360
ctgcctcctt tcccccgcct tccaatccat agctgcccta gtcctcattt atgtttgcca 6420
gcgtgcggag cagcccttct gtgtttgtga gttttcggca tctgtaagta cccacagccg 6480
cacagagctc gccagcacag acatttgtca aagatgacat gccagtcatc catgccaccg 6540
gagacagtga cagatgcgct ctccagcccc accatccagg cagtggagga tagatggggc 6600
cttggcaccg gcgcccgctc ttggcctggc atgtgcaggg agctgcagac caggcaagag 6660
acaaattgca gcctggtcag tgggcaggag gctcagtgtg catgcaggca gatgtggctg 6720
cagcctgccc ctgaaccaga cacctgcctg ccctccccag tgtcctagac ctgcccaaat 6780
ctggtgtttg cttaagattt gtatgtggtc actgatgagg aggtgagtgc tcacgggctt 6840
tgggttgttt ccaataataa tagtgacaat ggctgatgct aacatatgct gctctgctgt 6900
tctaagtcct tagcatacat cgagctcttt aatccttagc catccggtgg tggaggtaca 6960
ggaaactgag cctagagagg ttggaggcct cttccaagtt cacacattaa gtggcagagg 7020

caggaatcaa atccagacac tctggctcca gagttcaatg cccctcagga ctactgtcta 7080
atatttgaga gcctggagtg gaggaaaaat cgtgactagg caaaggattc aggtaggcag 7140
ggctcaccac taacctgagt ggacaggaac aggttgccct gcctcaattt ttccaccaga 7200
aaaaatgagc agtggctgct attgcaaggc cctgcaaggt cccagaccag ctccagggca 7260
ggcctctctg ttcttctggg acccttgggc actaggtcct ctgccgacac acattcactc 7320
cctccgccta ataatcccaa cccagatccc ctggagtatc atctcgtagt tcattaaacc 7380
atcacctctg tgtccctgag gcaagcttgc agtctgttga gattttgtag ggatgtttat 7440
ggctagtggc agcaaaggga acagaccaca taaaacaaaa agagacagta tgagctctta 7500
aaaagtttcc aaagtctggc ataaaagctc ccacaggtgt ttcattcata caaatgacca 7560
gcttccctcc gctctggatg aagggtttgg aaagaccaaa gtctggttca gtccagccag 7620
tctcctattg tgggaccttc cttgcgaaag taccttctt tctctgagcc ttggtttcct 7680
tgtctgtaaa atgggtataa tgatagtacc tatctcataa aattattgtg aggattaaaa 7740
cacaaaaaac acttagaaca gggcccgaca caaagcgaat gctcaacaaa tgccaactgt 7800
tctcattctc tggtttttag tttcctcagt gggaaaatga ggaggtgagt tttgtgccag 7860
gtatgggctt ctggctcgaa cattctgtga cttcatgatg ttcctagggt gcttccttgt 7920
ctcctcccac ttgcctgagt ctttcttctt tgtttctgtg agccccagcc aattagttta 7980
ctcacaagtg tagggtagag agaactacac aaacaggaag tgttaccact catactcaca 8040
gtggtgaatc attccaacct tccatcaagt ggatccacct ccattggtcg acacagctgg 8100
ggaatctgag ctactgtggc cagaactctg ttgaccacat cctgcaatga cagacctcag 8160
aatccttcct gaaccttcca tgggaaggag tctgtgacag cccacctgtg tagactgggc 8220
ctcatcagcc tgaatttgct gaaataagta attccagttt ccctgaattc atgcagaggg 8280
cacccacgct gggaaggagt ttctctggct tttcaagctc cataaacact tgaaaagtca 8340
ttttatttt caatctgtgg gcaggatgcc accaaacgag gaagcctcat taaacagacc 8400
ttgaaggcta tttctttgtt gtttttttg tgggagtggg atgaggtttg gtgttggctt 8460
ttttttcccc cactgatgct ttttggataa acacataaat cagcatcatc tatattcatt 8520
agatatcgtg ccttgttcag tacaaaatta cccctgtttt gcatgacttt ccccccttgt 8580
gattaatata aatgacttaa gttaattatg tttctcttca tggaaaaatg tatttgtcaa 8640
agtgctgaaa catcaataaa aaataaacac tgtcatttga agaagggctc atttgcaaat 8700
gagtagctgg ggtgtgggga aaggaatgga ctcacccgtc tggaggtgtc attctgattg 8760
agtaggcaca cttcatattt actaacaatg acaaaagcat ttttcttagt taagcactca 8820
caggtcctga tgaggtagac tgatgtcatc attattaaca ataatgacac ctcaggcgta 8880
gagaaaacaa ttttccttac tagagaaaac taacgctggg tattttacca tccagacctc 8940
caaaactagg cccagcatgg ggactttgca ggaatagacc aagaggcaaa tacagatgat 9000
tggagtggga gggaagagaa gtgaagaaaa gcaaaccatg gagctggtgt ggcatctcag 9060
agcaacatgg aagcttaggg atgagacagc acaaacacct ccctgggcca atgacaagac 9120
taagaaccag agaggggact tgcccccttgg gtaaacagca tattagtggc agagcccaga 9180
gagaacccag gactcttgac tcctagaccc ccacccttc cctgcactct gctgcctccc 9240
ttgccaccag ggatcaaagg ctccccctca cttgagtaag tggtcaatgg caccagcaag 9300
gtgcaggggc tcagactgct ggacagtcag ggccccaggg aaatctacag gttactgact 9360
tttttcatgg tatctggaat agcctttccc cacactgact gtcttagttt gggtttcctg 9420
aaggcagacc ctgagacaag atcgtaggtg ctggtggttt atgtaagagg tgagcctaag 9480
acaccaagtg aggtggagaa gtgagacagg gaagggagaa aagccaatac agggcacatg 9540
tatgaggggg ttactgcttt ggacacttgg actcactccc cccaggagtg actgcagaga 9600
atatgcctct gagttgtccc ggtgctggac agggaagcag aaatatttat ttactgacct 9660
ctggggactt taatttccaa cccctctggg tcaccctgta cctaagctga gcaaactccc 9720
atagtaccag aaaaacccag agatccaaaa ccctgagcag gtgagtggga agcgctagtg 9780
ggcacagtca ctgtctatgg cagatgcacg tgaacctgga ggtggtatgg ggggatgtgg 9840
gtggggcagg catgttatct actacatcac ccttatctaa gtgctcccag ccttccaaga 9900
aatcccccct ccaagtaaac atgatcatct tgtcttctga tggtcagaaa ccattcatct 9960
ggccacctta ttttacttat cttcttaaat attatttctg tcaccctaaa tatactgtaa 10020
agcattcaag ggcaaaatta aggccattat cattctgtca ttcaacaaat acttactgag 10080
cacttactct gtgctggact atctttaagg tgctaggaat atagcatcaa agataaagaa 10140
aatccttgtc ttcaaggaac ttgcatctta aaagtagagc tagacaataa acacataaat 10200
aaatgctata atttcaagtg gtgataagtg gctcaaagaa aaagaaagca gggtaaaggg 10260
gatagcataa tggaagtgca gtactcctgg ggacatttga gcaaaagcct gaatgaaata 10320
ccggagtaag ccatgtaaga atctggtgga atggaattca atcaaagaga atgtcaatgc 10380
aaagacccta gggaataaca ggaaggctgg tgtgacactc agcggagtga aaaagaaggt 10440
ggtaggaact gaagaagggg acaaccagat cgtctaggac cttaccttta aacagtgcct 10500
ggcacaaaag aaaggtactc caagctgact ggatggatag atgggtggat ataacagatg 10560
gaaggatgga aataatgaca gactagtgga tgaagaaaga agaaaacaaa gcaggttcta 10620
taggtagagt gtggtgccaa tggtgcattc aaagccagac tttgcagaaa tagcaaatat 10680
tgaacccaaa gtacccaatg agtagttatt agaccaagga agcagttgaa ggagaaatgt 10740
tcctctctgg gcttcagcca atgagaatcc tagaaacctg agtgtcctta tctttcttta 10800
cattccctgc agaggcccag cttctccccct gtggtgagta tccaataaca ttaaatggta 10860
ttacagtgga ttaattaaac tttggtggct ggaagctagt gaatcattcc ctccaccaca 10920
tattaccatg tttactcatc agggctccat ttttaatagc ggtcttttaa ttaaagcatg 10980
tcaccacggt ccattaggga agaatttgga ggatgagatg tgcatgtggg tgcaagcatc 11040
atttaattca gcagttcttt actgagtgcc tactatgtgc ctggcaagtc ttgaggtact 11100

seqlist.txt

atgagaaaat aaggtgcaag tgaagggctt caaggaactt acgcgatcaa acaaagtgaa 11160
ttcacactca cgatcaactg aggaacattg gcatattaat cattgcttgc caactaacca 11220
gaattcttta ttagtaactt ctcccaccta gtttaatttg gaagaaccag gccaatcata 11280
agaaaaattc tggggctttt cgttttcagc aaaatatcca gggtatactg tggcctagac 11340
cctgatgcag tcatatatct ttgggaaagc ctcctaaaac ttctgagcct caatcagtct 11400
cttcaagaat aaaagcagag gttgttctta tccagaaatt ctctagattc cagctgtaac 11460
attttctcat ctgcgaccct ccaaatctcc aggcccagac catgaggatg ggttttccag 11520
aatggtggaa atttcatcta aagtcactct aagattttta cccaccagag aaagatcctt 11580
ttcattacat tcatgacatt ttgttttctg aattttcaaa gaggaccaag aagacctgtt 11640
tggaagtagg agtagttaca atgcatgcac tatgtgtgca cttagatgag gaggaacaaa 11700
ccacatactg ccagaaaagc aggctctatt catggggtga ctgggtaaaa ggcattggaa 11760
ctggacccta aagactaggt aatagtttga gagtaggaga aatgggggga aagagccaat 11820
tttcagcctg attctagcca tgttccaagt atgggtcccc actttgcaac tgcatgacaa 11880
gctcccccag gaggagggac caggtctctt tttcttttgt ctgagattct tccttccagc 11940
tcttcactcc ttaggcgagc tcagccagtc tcataggtta gggcccacct gtgtgatgat 12000
gactcccaca tttccatctc cagctcagca cctctctgcg gagctctcta ttcagtcagc 12060
tacctgcttg gcacagcact tagaggcttc aagacatcac aaacaacgtg gacaaaatga 12120
ggctcctatt tctgtgtcca gtctgttgat cctcattctt caggtctcaa tgtaggagtc 12180
acttccccag aatgtaaata tatatcttac cccagaatgt gtgtgtgtgt gtgtgtgtgt 12240
gtgtgtgtgt atatatatat atatatacac acacatatat gaatatattt gtttatatat 12300
atttatatat acatatatat gaatatttat ttatttatat atgaatattt atttatttat 12360
ttatttatga atatatattt atttatttat atatatatta tatatatgaa ggaggggtca 12420
ggacctctcc gatccctctt ctataaacac cctaggtttt ccttcacaaa tgttgtcaca 12480
ttgtcaggaa atctttgtgt tgtgatatct tttctgtgag gtatttgatg aatggttgcc 12540
tgtcttactg gatttttaag tcccattggg catagatcag cccccattta ctcaccactg 12600
tctcctgagt acctgggact gtgcctagaa cataataggc ccccagtaaa tatttgttaa 12660
gggaaggcat gggttcccca accccagcca gtgtgcaaga tccatttccg cataccactg 12720
gcacacaaca ttcaggcact gggagccgca cagtgacgga agcttgaaca ttttcttcgt 12780
gtcaagttct cagtaaagct attttctcac attgtctcat gtaattctta aaccaccctg 12840
gaaggaatag gttttattgc tgtttccatt atataggtgg ggaaacatgg ctcagaggaa 12900
agtggcatgt ccaagatcac acatcctgca ggggacagac agaccaaacc catgttttca 12960
ccagcctctc atctcacaaa caacactagg tttgttaata cctgggaact ctgtgtaagc 13020
gaggtccctg gcttggtgtc agaagacctg ggtttgagtc ttgacaatgt cctttgtaag 13080
tagcttaagg tagctcctca gttccctgtg agacactgca cacaacatcc tttaaactgc 13140
cttaagaaaa acagccctac aaatgaagac tccattgcca ctccctttga agcagctgct 13200
ctcagagtcc tctgcactgc ctcatctgaa ttgaactatc tccccacctt ctcgcagaat 13260
caaaaactag aggctgcagg ctgaagaggg caccattatt ttgtttaact cacagagtat 13320
ttaaaacttt tttttaagtt gttgggtaaa ttctaacagg ttttcttcag ggtccagatt 13380
tttaccttct cttgaaaaat tagaagctcc tgcaacatca gtcccacagc tctgcacatc 13440
attgactggc atcaattggt tgagccaaga ggtagccatg ctctctcccc agtgtgccac 13500
tatccctacc tgaggctggg aatcaggtgt cacttacctt gacatctgtt cccttatttt 13560
tccaacaatg ggaatacatt tttctgcatt catgtcgcta acagaactag gaaaagcaag 13620
cctggaccac aaggatagtg cagtgagaga taatgtgagt ataattcttg atgcaagtga 13680
agaataatca tgagttcaat atggttaagt gcatgtgttt caaaacaaca caacccaaac 13740
aagattcagc aaaaatacta tcccccagct ctattttgtt atgttgcctc tatgacccct 13800
gtaagatttt gaatttcaga tgcttgcttc agttaaataa agagttttct agatgaaggc 13860
atgcagtagg tctctaacac tgagccactg ccttgtccct ctcaattaac ctttgtcttt 13920
aagtccctgt ctaatgccta ctagtagcta ggtccctgag attgtaaaga ccccaaggcc 13980
ccaggaccct gaagagccca ggaagtatca gaccaatgaa ccagacctga ggtctcctgt 14040
actcttcagc ttctgaacta taggagaatc ccaaggaaaa cagggcaaca acaacttata 14100
ataaatagta atactgccag aatcctattt gtatttacca gtttgcaaag cactctcatt 14160
cattcaacag tcatatggca aatataagtt gaggctctat tacagatcta ggccctgtgg 14220
gcgtgatgtt atacttggta gtcaagatcc ctgaccttag gaagcttcca gtctggccag 14280
gaaacatcag agaactaaca tttctatagc actttaccat gaaccagtca ctcttctagg 14340
tgctttacac tgagtaactc atttaccctt catagcaatt ctaggagata agtactgctg 14400
ttttccccat ttcacagatg aagaaactga ggctacagaa gttaagtaac ttcctcaagc 14460
tcagtggtgg agccagccat ctgacccaca gaagcaagtt gctggaggca ggcttttggg 14520
accacagact gggaagatga tatcttcacc agtgaagatt tccaaggcca acatcacatg 14580
gccaaattgc atcaccccat ggccctgggc tcttctccct gttcacacta aaactcagaa 14640
acatttattc atgggggggag tagtcagcac actggttgct caggtctgag aatgccaggg 14700
ctgagctagc agggtttgca ggtcccaagg caatttgcat ctcctgttgg aagtcttcct 14760
catcaaagca acggaaatca atgcagtaaa tagttataat gaactgacct gctcacactc 14820
cctgtctctt cctgaggaag aggaatcatg agagacacat tgtttccaaa tccttcacct 14880
ctttcccccct cgcctgatcc tcccacaggg aatcctcttt gctcctgtca acagtgtttg 14940
agatgtttca gagttttttat tggatcttca ttgtagctct gtctgtgagg attcagtgaa 15000
gctaagattt aagggccaga gagagttgaa acttctacca agcatcagcc atggctgccc 15060
tgctttccag agtactgtcc acggacctct gggcctcagg gactagagaa tgtcagggga 15120
ccatctcatt tcatacatgt aaaaactgag gcacggagag ggcaggacca cccagcacag 15180

gatcagcaca cctctccaac atcagtacac cccacctttt caggcagata caggaatctc 15240
ctccgcagca aagtgttgat aggtgggaag cagtgctgtg atgcccttag ctttggcatc 15300
caaatgcttg agttttaatg cctgacccac catttccttg ctgtacaaga ccttgagaaa 15360
gctaattaac ctctcagtaa ctgttttctc atatataaaa cagggatgaa aataaaagta 15420
tgtgctccat tgagttgttg gaagctttaa taaacacagg aaaaaaatta gaattgtgtc 15480
taccatgtag taagtattca ataaatgtca gtgactatgc ccatgatgaa tatggtgaat 15540
atgattatga tgatcatggg cattatccct ggtgctaaga gtcacttcta caggagttta 15600
gcttgccctg acctagaaca ttgaggcagg gcatgaactc aatgttgcac tgagaaccag 15660
tctaacacag gaatgttttc tctgtttcac aggtgtcagt catgttctct ggataaatga 15720
taagattgaa agtccttgaa ggcaggagac agccccagat atcgttttgt tgtctgacac 15780
aataccaagc acaaatgatg tgcctaaatc ctgggtcttt aacccaaggc catctacata 15840
tgccctgggc ctgccagctc atgaaaacca gcctctgtgg cagttggggt gctaaggaat 15900
tgctccagtt gagcttcact ggtttttact cttggctgtc atgcttggat ctcttgatta 15960
tgttccatca gttcaccccc tgcctctggg ctgaaagatt tggtgttctt tctaagtttt 16020
cttgcatgat ttgtggctta gaacgtcttt cccgtacatc tctagccctt tccatctcaa 16080
atgttgactc agattattgg ctcagggcaa agccactggc tccagctctt aaccctgtag 16140
aatctcacct atccctggca cccaacatag acatccaccc cttcaactcc accaagctag 16200
ggagtagaga gtagttgtct tttccatcca ttctctccct tcccctcctt gtctaatttc 16260
taagagttaa gagtgggcac ttttccaaca tttccgtggt tacgggtaac tatgtcactc 16320
aatcctggcc acatgaggtg ggacactagc ccactggaag agttttcttc ttaatagaag 16380
agagaaatct gtaagaataa tcccccactg ttcctacctt gggtgctatt atgtgaggcc 16440
ttgatgcttg aacctgtggc aatgatcttg caacatgagg aaagggtcac aagaattgca 16500
gagatactga ctggagccct gagctgttaa ataaaccaac tccaaaccaa tgggaatggg 16560
gtatggaacc accagtctct agattttctg tgacaaggaa caattaagct tccatatttc 16620
ttaagcctat tttagtcaag agctcagtta gttgcaggca gaagcattcc aaagttttat 16680
caagtaagca tcaatttgcc tatcacaaac tttatcaagg tgttggtaga ttctaccttg 16740
tagacataat gtgatctact aggaatctat gtagaaaatt caagaatcca agaatttggg 16800
agaaaactta aaagtcgtcc atatctgaca tatagatcaa tggaataaaa tggagggtcc 16860
agaaacaaac tctcatattt atggtcaact gattctcaac aagggtgcta agaaaattca 16920
atgggggaaa taataggctt tttgccaaat agtgctagat aacagaatat atccacatgc 16980
aaaatatgaa ttcagaaccc tatcacacac catataaaaa aatagctcaa atggatcaaa 17040
tatctaaatg taagcactaa gactactaaa ctttaaaaga gaatgcatgt ataaatccat 17100
gaccttggat taggcaatgg tttcttagat atgacaccaa aagcaatcaa agaaaaagac 17160
atataaattg gacattaaca aaatttaaaa atgttgtgct tcaaagaaca tcatcaagaa 17220
aatttaaaaa accttgaata ctgtatatat tttctccaaa aaagttacac aaatagccaa 17280
taagctcaca atgtgcttct ctgctgagcc cagagagagc aagatactac tactcaacta 17340
gcccctttaga cagccaccac aaacacatac gaacgggcac atgggatgaa atgtgtttac 17400
cattcccaat ctaggacaac ggtacccaaa ggaaatgttg gtgactatgc ccatgatgaa 17460
tgcttataaa ccaacatttc ctttgttttg taaaacattt gaagccatgt ccatggacac 17520
agaggaaacc atgacggcac cagaatgtct atttctgtcc ttgagatgat gctaagacta 17580
ggatatccct gtgtctagga actcactact attgtactgg tgtagctcag tccatctttg 17640
aggaacaaaa agaagttcta ttttttttatt tcaactttta tttcagattc agagggtaca 17700
tgtgcaggtt tgttgcaagg gtatattgca tgatgctgag gtttggggta caattgaact 17760
catcatccag gtagtgagta tagtacccaa taggtagttt ttcaaccctt gcccctctcc 17820
ttccatccct ctcttgtagt ccccagcatc tagtgttccc atctttatgc catgtatact 17880
caatgtttag ctcccgctta taagtgagaa cacgcagtat ttggttttct gattctgtat 17940
taattctctt aggattatgg catccagctg catccatgtt gctgcaaagg acataatctc 18000
attatttttt atggctgtat agtattccat ggtacatatg taccacatat tatttatcca 18060
atccactgct gatgagcacc taagttgatt ccatgccttt cctattgtga atagtgctgt 18120
gatgaacata cgagtacaag tgtccttttg gtagaatatt tattttcctt tgggtatatc 18180
cccagtaatg atattgctaa gttgaatgat agctctattt ttagttattt gagaaatctc 18240
ctaacagctt tccacagtgc ctgaactaat ttacactccc accaacagtg caaaagcatt 18300
gcctattctc cgcaacctcg ccaacatctg ttgtttttttt actttttagt aatagccatt 18360
ctgactgatg tgagatggta tttcatagtg gttcttattt atatttctct gacgattagt 18420
gatgtggacc atttttttata tgtttcttgg ccactcgtat gtcttctttt gaaaagtgtc 18480
tgttcatgtc ctttacccac tgtataatga agttgttttt cacttgttga tttgtttaag 18540
ttccttatag acctttgtca ggtgcatacc ttgcgaatat ttttttcctt tctgcaggtt 18600
gtctgtttac tctgttgata gtttcttttg ttgtgcagaa gctctttagt ttaattaagt 18660
cctacttgtc aatatttgtt tttgttgcaa ttgtttttga ggacttagtc ataaattctt 18720
tgccaaggcc aatgtccaaa agggtatttc ctagattttt ttctagggtt tttataggtc 18780
gaggtctcag atttaagtct ttcatccatc ttgagttaag tgataagtgc acacaaatta 18840
aggttttttt aagtattttt aacttttttta aagtattttt taggtatttt taacccttat 18900
tttagattca agggtacatg ggcaggtttg ttacataggt aaattcatat cacaggagtt 18960
tgttgtatgg attatttttgt cacgcaggta ttatgcctcg tacaaaacag ttttttttttc 19020
tgctcttctc cctcttctct tcttccactc tcaggtatgc cctgatgtct gttgttgccc 19080
tctttgtgtc catgtgctct catcatttag ctcccactta tacgtgagaa cacgtggtat 19140
ttggttttct gttcctgagt tagtttgcta aggatactgg cctccagttc caaccatgtt 19200
cctgcaaagg gcatagtctc attatttttt atggctttgt agtattccat ggagtattgt 19260

accacatttt ctttatccaa tctactgttt aggttaattc catgtccttg ctactgtgaa 19320
taatgctgtg acaaacatac acatgcaggt gtctttatgg tagaataatt tacattcttt 19380
tgcgtatata cccagtagtg ggattgctgg gttgaatggc agttctgttt ttagctcttt 19440
gagaaattgc cacactgctt tccacaatgg ttgaactaat ttacactcct accaacagtg 19500
tgtaagcgtc ccctttctct tgcaaccttg ccagcatcag ttatttttg acgttgtagt 19560
aatagctatt gtgactggtg tgaaatggta tctcactgtg gttttgattt gcaatcctgt 19620
aatgatcagt gatgttgagc ttttttttata tgcttgttgg gcacacgtat gtcttctttt 19680
ggaaagtatc tgttcatgtc ctttgcccac tttttaatgg ggttgtttgt tttgttcttg 19740
taaatttgtt taagttcctt acaaatgctg gatattttta ggtctttgtc agatgcatag 19800
tttgcaaata ttgtcttcta ttctgtaagt tttctgttta ctctgttagt ttattttgct 19860
gtgcagaagc tatttaatta gatcccattt gtcaatttct gcttttgttg caattgcttt 19920
tggtatcttc atcatgaaat cattgcctgt gcctatgtcc agcatggtat ttcctaggtt 19980
gtcttctagg ggttttatag ttcgggattt tacatttaag tctttgatcc atcttgagtt 20040
gatttttgta tatggtgtaa ggaaggggtc cagtctcaat cttccacata tggctagcca 20100
gttatcccag caccatttat tgagtaggtt ttccctcttg cttgtttttg tcagctttgt 20160
caaaggtgtg cagccttact tctgggctct ctactctgtt ctattggtct atgtgtctgt 20220
tttttaccag taccatactg ttctggttac tgtaatccag tagtatagtt tgaagtcagg 20280
taatgtgatg cctccagttt tattcttttt gctcaggatt gctttggcta ttcaggctca 20340
ttttggttcc atatgaattt ttaaacagtt ttttctagtt ctgtgaagag tgtaattggt 20400
agtttgatag aaatagcatt gaatctataa aaatttcttc aggcagtatg gccatttttа 20460
caatattgat tctttccacc cgcaagcatg gaatgttttt ccacttgttt gtgtcatctc 20520
tgatttcttt gagcagtgtt ttgtaattct cattgtaaag atcttttact ttcctagtta 20580
gctgtatcca ttctttaggt cttttattct ttttgtggaa attgtgaata ggatagcatt 20640
cttgatttgg ctcagggcct ggttgttgtt ggtgtatagg aatactaatt atttttatat 20700
gaatacattg attttgcatc ctaaaacttt gctggagttg tttatcagct taaggagctt 20760
tggactgaga ctatgggatt ttgtagatac agcatcatgt catctgcaaa cagagatagt 20820
tttacttcct ctcttcctat ctgggtgctt tttattgctt tatctttcct gattgctctg 20880
gccaggactt ccaatagtac gttgaatagg agtagtgaaa gagggcatac ttttcttttt 20940
ctgcttctca tgggaaatgc ttccagcttt tgcccattca gtaaatgttg gccgtgggtt 21000
tgtcatagat tgttcttatt attttgaggt acattccttc aatacctagt ttgttgagag 21060
tttttaacat gaagggattt tgagttttat tgaaagcctt ttctgcatct actgaggtga 21120
tcatgcggtt tttgtcttta gttctgtcta tttgatgaat catgtttatt gatttgtgta 21180
tgttgcacca accttgcatc ccagggatga agcctacttg atcatggtgg attagctttt 21240
tgatgtgctg ctggatttgg tttgatagta ttttgttaag gatttttgca tcaatgttca 21300
tcagggatat tagcctcaac ttttctattt tgttattgtt gtgtctctgc caggttttgg 21360
tatcaggatg atgctgacct tatagaatga attggggagg agtccctcct cttcaattgt 21420
tttggaagag tttcagtaag aatggtacca attctggtag aatttggctg tgaatccctc 21480
tggtcctgga ctttttttat tggtatgcta tttataactg attccatttg agagcttgtt 21540
attggtctgt tcagggattc aatttattcc tggttcagtc ttgggagggt gtatgtgtcc 21600
aggaatgtat ccatctcttc tagattttcc agtttgtttg catagaggtg ttcatagtag 21660
tctctgatgg ttctttctat ttctgtgggg tcagtgataa tatccccttt gtcatttcta 21720
attgtgttta tttggatctt ctctcttttc tttatcagtc tagctagcag tctatctatt 21780
ttattatttt tttcaaaaaa aactaactcc tggattaatt gatcttttgg atggattttt 21840
gtgtctcaat cactttcagt gcaatatgat tttggttatt tcttgtcttc tgctaatttt 21900
ggggttgctt tgctcttgct tctctagttc ttttcattgt gatgttaggt tgttaatttg 21960
agaactttct aacttttga tgtgggcatt taacgctata aatttctctc ttaactctac 22020
cttagctgtg tcaaagagat tctggtgtgt tgtatctttg ttcttgttag cttcaaagaa 22080
ctttttattt ctgccttaat ttcattattt aaccaaaagt cactcaggat caggttgctt 22140
aatttccatg taattgtatg gttttgagtg attttcttag tcaaattcta tttttattgc 22200
tctgtgatct gagagagtgg ttggtatgat tttggttctt ttgcatttgc tgaggattgt 22260
tctatgtcca actgtgtggt caattttaga gtacatgata tgtggttatg cgaagaatgt 22320
atattatgtt atttgagggt agagagttct gtagatgtgt gtcaggtcca tttggtccac 22380
tgttgaattc aggtcctaaa tatctgtgtt aattttctgc ctcaatgatc tgtcttatac 22440
tgtcagtagg gtattgaaat ttcccactat tattgtatgt gagtctaagt ttcttcgtac 22500
ttgctttatg aatctgtgtg ctcttgtgtt aggtgctgca tatatattta gaatagttag 22560
gtcttcttgt tgaattgaac ccttcaccat tatataatgc ccttctttgt ctttttcttt 22620
atttttgttg ttttaatgtc tgttttgtct gaaattagga tcacaactcc tgctttttтc 22680
agttttacat tttcttggta gatttttctc tatcccttta ttttgagcct atgggtgtca 22740
ttgcatatga aatggatctc ttgaagacaa gatattattg ggtcttgctt ctttatccag 22800
cttgccactc tgtgtctttt aattggaaca tttagcccat ttgccttcaa ggttagtatt 22860
gatatgtgtg gatttgatcc cgtcatcatg ttgttaggtg gtaattatgt caacttgttt 22920
gtgtggtagc tttatgatgt cactggtctg tgtacttgtg tttttgtagc ggctggtaat 22980
agtctttcct ttccatattt agtgcttctt tcgggactcc ttgtaaggca ggtctggtgg 23040
caatgaattg cctcaacttt gcttgtctaa aaaggatttt acttctcttt cgcttgtgaa 23100
gcttagtttg gccagatcta aaatccttgg ttggaatttc ttttatttaa gaatgttgaa 23160
tataggcccc caatctcttc tggcttgtag ggtttctgct tagaggtcca cgttagtctg 23220
atgggcttcc ctttgtaagt gacctgtcct ttctccatag ttgcctttaa catttttttc 23280
tttcatttca accctggaga atctgacggt tgtgtcttgg ggaattatct ttttgtgaag 23340

ttttgcagg ggctctctgc atttcctaaa gtttaatgtt ggcctctcta gctatgttgg 23400
ggaagttctc acggatgata tcctgaaata tgttttccaa gttgcttcca ttctccccat 23460
ccttttcagg gatgctaatg agtcacagat tcagtctctc tacatagtat catatttctc 23520
agaggtttta ttcattcctt ttcattctct cttctttatt cttgtctgac tgtctcattt 23580
cagaaagcca gtcttcaagc tctgagattt ttttcttagc ctggtctatt ctactgttaa 23640
tacttggaat agcattatga aattcttgta atacatttac aattaccagc cctgtcaagt 23700
cagttatgtt attttctata ctggctattt tttctgtcag ttcctgtatc attttattgt 23760
aattcttagc ttccttaggt tgtgtttcaa cattctcctg actgttgatg atcttcattt 23820
ctacccatat tctgaattct agttctgtca tttcagccat ctcagcccag ttaagaacac 23880
ttgctggaga actaatgtgg ttgtttggag gaaagaagac actctgcgtt tttgagttgt 23940
cagagttctt gtgctagttc tttctcatct gtgtgggctg atgttccttc agtctttgaa 24000
gttgctgacc tttggatttt ttttttcttt tatcctattt gatgacctta ggggtttgat 24060
tgtggcataa ggtggattca gtcaactggc ttcatttcta aaagatttta gggagccaag 24120
tctcagctca ggactcctgg gccacattct ctaactctgg gagactggta ttgagcccca 24180
gctttgttcc ctgactcctc gaggttagga acctgatgca ctgggggggc caagatgctg 24240
ctggaccact ggtcacagtg ctctggtgga tggtgccagc caaagcactt cacagggcag 24300
tggtagtgag ctctgtcctc atttgcacat gccagtagca gtgcagtggc agtgcagcag 24360
ggtgcatgct cagctgcagc agggtgttag tgggtactgg ggtgctggcc tctgtgcaag 24420
tgttcacagc agcagcagtg gcagcacagc ttggggtggg ccccactgga cactgggcaa 24480
ctgtgcatgc attaacacca atggtggtgt tagcatggag acagggtgct agtgggggca 24540
ggactgtgtg taccttgtg cacgtacatg agggcagcag tggctaccca gggtggggac 24600
gggtccactg tttcagctgg ggtcaggcat tggcaggcaa ggctagcagg cttcatgcct 24660
actaatactc tgacaacaat ggcagttggg ggggcagtgc actcaagtca gcagcagtgg 24720
catgtcaggg tgcctgcaca cacatatcct tgtggagaag gaaaggcaaa gtccacctgc 24780
acaaggtcca catgtgctgg caaagtgatg tggggagacc ctgggtgagt atatacaggc 24840
aaagtggcac aggggaggct acagtagggg aagagcaggg gtggagttag tgtgtgtcca 24900
cgggtggctc tgctggagca ctctgccggt caggtacagc ctgccagccc tgaagctatg 24960
atgcaggcca aggcagtacc tgagggctgc actgcaagca gttgtggcca ggctggggcc 25020
tcaggagagg ccatcagact aaggggtgct cagatcagac tagtcctgtc tcatgggcaa 25080
gaccaccctg cagttccagt ctaacagttc ccctagggct atagtctctt atggcagcaa 25140
gttgagccta agaggatggg catccctggc catgcttcac tacagatgcc cctacaccaa 25200
accctctggg ctccacacta cctggagttc ttccccatct cttctctaag cagcaattcc 25260
tgccaattca agtgtccatg gtagtcgagt ggtcacctcc tggtggaatt ccagaggccc 25320
aaggttagag caggttgctc cttgcctgtt gaactcaccc cttcatgcag gcatcattga 25380
ggggcaggaa cgagtcccag tgtgcagaag ccccttgcag ggttcccagc ttcctcctgc 25440
ttcagcccag cctctgtgtc ttccttatat tcaccctgaa tgccttccct ctgaagacat 25500
gctaggagtg caccagtctt cctgatatcc cagtctctcg gtgagagatg ttcctcctgg 25560
ctgtgtctag tcagcagcca tcttggagct agtcctctga gctcagtttc attcttctgc 25620
atatggatag tcagttactc cagcaccatt tattgaatac ggactttctc cattgcttat 25680
ttttgtcaac tttgtcaaag atcagttggt tgtagctatg cagctttatt tctgggtttt 25740
ctattctgtt ccattggtct atgtgtctgt ttttgtacca gtaccatgct gttttggtca 25800
ctgtagcctt gtagtatagt ttgaagtcag gtaatgtgat gcctctggct ttgttctttt 25860
tgcttaggat tgctttggat atttgggctc ttttttttt tggttccata aggattttag 25920
aagtttttc taattccgtg aaaaatgaca ttggtagttt gatcagaata gcattgaatc 25980
tgaagattgt tttggcagta tggacttttt aaagaattga ttcttccaat tcatgagtat 26040
ggaatgtttt tccatttgtt tgtgtcatct atgatttctt tcagaagtgt tttgtagttt 26100
ttcttgtaga gatgtttcac ttccttggtt agatgtattc ctaggtattt gtgtgtgtgt 26160
gtgtggcgat tgtaaatgag attaggttct tgatttaacg ctcagcttga acattattgg 26220
tgtatagaaa tgctggtgat ttttgtacat tgattttgta tcctgaaact ttactgaagt 26280
catttatcag ttccaggagc cttttggcag agtctttagg gttttctagg tatagaaaca 26340
tatcatcagt gaagagaaat aattcgtctt cctcttttcc tatttggatg ccttttatct 26400
tttctcttgc cagattgctc tggctaggac ttccagtact atgttgaata ggagtggtga 26460
gagtgggcat ccttgtctta ttctagttct tgaggggaat gcttccagga aaaagttcta 26520
tttcacaagc aatcaaagaa atgtaaaaca aagcaatgaa catttgtttt tcatccataa 26580
tattaacaat tagttaaaat ataatattca gtggtggcaa gggtatggta agatagactc 26640
aagttctcac tggaataaaa tgtagtccat ctgtagaata aagttgaaca atgtgctctt 26700
aaacccaggc attccatcct tattcttatc ataaaactca gagattaaga tgggtgttaa 26760
ttatataaag tcattaatca agattcttat tgtacaagcc agtaattgaa acaacttgta 26820
tatgcagcaa gaagggaatt gttgacctta tggaagagta gaatgataga tgccagcagc 26880
tggaaatggg tgggggaat gaaaagaggt tggttaatgg gtataaacct acatttagac 26940
agaaggaata agtcctacat ttaggtagga ataaacctac atttagatag aaggaataag 27000
tcctagtgga cacagtaagg tgactatagt aaacaattta ttgtatattt caaaatagct 27060
aaaagggaag acttgaaatg ttttgaacac aaagaattaa taaatgtttg aggtgatgga 27120
tatcctaaat accttcattt gatcagtaca catcacatgc atgtatcaaa atatcacatg 27180
tacccataa atatgtataa ttatctatga ataaaaaaag aaaagaaaga ggggaatggt 27240
tacataagtt ataatatacc tatatgctag aatggatttt gaaatagttg gatggcatca 27300
ccatataacg ttacatttaa aaaccagggt tccagccagg catggtggct cacacctgta 27360
atcctaacac tttgggaggc caaggcaggc agatcacctg aggtcagaag ttcaagacca 27420

gcctggccaa catggtgaaa ccccgtctct actaaaacta taaaaattag ccaggtgtgg 27480
tggtgggcac ctgcaatccc agctactcag gacgctgagg caaaagaatc acttgaaacc 27540
aggaggcaga ggttgcagtg agctgagatt gtgccactgc actttagcct gggcgacaga 27600
gcaagaccct gtctcaaaaa gaaaaaacca gggtccaaca ttaaaatgta catgatttct 27660
aattacataa aaatctttgc taattcatag aaatgtgact ggaaagaaat acaacaaagc 27720
actgataatc acagttactg gacagtggga tgaacagtaa tgcatatttc tgtctgtatt 27780
ctttcctata ctctccacat tttctcaaat aatcatgttt tctttttag aggaaaaaca 27840
gcattattac aaaaaagaaa ggagccaaag atcttaagtc accatggctc cttctattgc 27900
ccgctgagct gtgtctccca agctcactga ccttcagagg ctttgttcat aaaataagga 27960
caatggtatc taagagtctt cacagaattg ctgtgaagat aaaataagaa aacgacatgc 28020
tttgtaaatt gtaaagcatt gtacaaatgt tagctgttac taacattata acacagaatt 28080
aattccaata atctgagaga agagaaaaga aattcataat aagatacctc aggctttgac 28140
ataggaacta ggaaaataca agaataagct aagaatagaa agaagtaaaa catccacagg 28200
aatcctggag aatgttcact agcatatctc aggaagctca gagaaaacat ttaacaagaa 28260
gccaaaaaaa aaaaaattca caaggcaacc aaatattaac agcactgctt ggctaacaag 28320
ccacacatga tattttgtct ttaggttttt tagctttctg ttttgtttca ttttgttttt 28380
tcaagtcttc tgaaaattga gaaatgatca agttgggaga atggaggagt tcactcattg 28440
tgacaggcag ataaaaatta gagataactt aggtcaaaat ctattgaaga agcatcttgc 28500
tccaaaagtc aaaatcagca cccagaggga gaaaactgga ggacagagag ggcacttaat 28560
gatcacaggg ccaggactgg actcagaaat gacaaggacc cagcaaaagg attcaaattc 28620
tttaccttgc aaaggaaaat gcctgtggcc actcgttgct gcccactcct tcctatacaa 28680
gactctccta ttcttgcttc ttgagtgctc acctgtccca ctcccctgca gctccctctc 28740
tgacttccct tccctcccca ctccacactg tgcctgctct aagggtcctt tttcactccc 28800
tgctcttgcc tatcctccct gttatttctc cctgttctag ctaacacctt caaatctaca 28860
tcttcatgca ggatcatttc tcaacccccc taccatctct ctaaatgcct ctcagacaca 28920
caccccaga agccttgctg cccctggaaa ctaagcctgc agccaaatgc gtcttccttt 28980
ttttttttt ttttttttt tattatactt taagttctag ggtacatgtg cacaacgtgc 29040
aggtttgtta cgtatgtata cttgtgccat gttggtgtgc tgcacccatt aactcgtcat 29100
ttacattagg tatgtctcct aatgctatcg ttcccctctc ccccaacccc acaacaggcc 29160
ccggtgtgtg atgttccct tcctgtgcgt cttctaaaaa aaatgcgtct tctaaaaaaa 29220
acgcaaacaa accagtgaaa gtgggttcaa tgtatcctta cttgctagtc ctaataacaa 29280
ttctgctaga aacaatttcc tcttgtgctt cttcttctca tcccaaacta aactgatcat 29340
gtcccaaata ctattaatac aatctttcat attttttct accaggccct tccacctgcc 29400
cccatcccag tccagagatt gataggtcac tgtggcagct ttctgattac cttctcatca 29460
ctgcatctcc tctccccaat cacttgtaaa tgccactgtc aaagggagtt ttgcaagaca 29520
acactttctc ctcacttgga ttctcccaac aaaggctttc aatgactacc ttaaaggcct 29580
attagataaa gaacaaatgc ttttcctaac attcaagctc ctgagtccta gctaagggct 29640
ggatggatgg aaatgtcttg gccaagttca agggttgggc caagatggtg gccaacatta 29700
gatttcaagc atgaaggcta gggataccag ttgtcatgag ttaattgtgc atgggcaggg 29760
ctgttaatgg tcaaaaaaag agtcaagtct tgggaaagaa tataattgtc aacatttgag 29820
cataaagaac aacctcccaa agcagaatca ttccagaaat ggaaaggaac acagagatga 29880
gaggcaggag ggtgggcttc agaaacaagg acagaagcca aagttggggc caaagaggcc 29940
cttcccatgg gcagatcaga agtgtgcttg ctcagagccc aggaggctga ggttgggcaa 30000
catagtgaat gtgaagccaa ctctgtggag cacttgctcc ccacacagtg ctcactcttc 30060
tccatagaat aaggcaagct gtagctctga aaaagtcaag agtgtagctt ctggaaaatt 30120
aacctaaaag tatagaagcc acccaaagca tagaaagcat ccattcatca actgatgaat 30180
ggatagacaa aatgttgtat atccaataca atggaatatt attcagccat aaaaaggaat 30240
gaagtatgtt gcatattgca acatgataat accttgaaag cattttatgc caagtgaaag 30300
aagccagaaa caaaaggcca catattgtaa gatttcattt atataaaatg tccagcatat 30360
gcagatctct agagacagaa agtatcacag attggtgatt gcttagggct gggaagattg 30420
ggaggctaat gggtaataat taagaggtat ggggtttcct tttggggtaa taaaaatgtt 30480
gtaaaattga tggtggatga atgtacaact ctatactaaa acacattgaa ttatacactg 30540
taaatggtaa attgtatgtt atatgaatta tatctcaata aagctgcttt ttaacaaagg 30600
tggcagttgg ttcaaagtag acttcaattc tacacgacca aagaaagaat caaaaaataa 30660
gtcagcaagg aaaaagtgaa ttttataaca cctctatcct ggcagcttgt ggaaagccca 30720
aagacgtgct atgtaatctt ttctgtctcc attgcgagat tattttcttt tctctgcccc 30780
ttggtgctac ctctgcagct tatacatatt tctgtttctc cttcaatagc aatagattat 30840
aactgttggc caccctggct gcttccctac tgcacactgt ggctctcaga ggactgagac 30900
tgttccctat tggctcctat atctctagtc cctggcacaa gattgatgct gactaaataa 30960
ctgttgaatt gatattaatg ttataaatcc tggtcccttt tatctaaaaa atcttactat 31020
ctgatgagaa actagtaaca ctagttgctg atgaggagaa ctcagtagtt agggagaggg 31080
atgggagaga agcattttgc acacccttta gtacctctgg aatttcatgt atgtcaatat 31140
gtcaccttct ccccagataa attaatttaa tgttttaaat tgtttaaaaa tatatcattt 31200
attagcaaag acacagaatt catgcatttg acaaaacaga gaactgtaga atgtgacaaa 31260
gctctcagga gagcagactc agacagcaaa ctcttcagtg ggaggcccag gggagtggaa 31320
atcaaagtcc ccaggagacc agagtggaga gaattatagc tctcttctca taattctaag 31380
gaagcaattg tagttctcca ttcattcttg gtaatgacat cagggtttct ctgccagcct 31440
caacaatctc accactgcca gtctcaaggc tgatacagat tcatccacat catgtggcat 31500

tcacatcctt gctgccatgc ccacctgtcc actcaggagg acagctgctg cagccagaaa 31560
ctgggagaga agacctcatt gctgggcaga attactcact aactagtaca gcatacgaag 31620
accaccctcg ccacacaagg agaggcacac ctggaagcac tggaagagag gctaacctcg 31680
tcccccatgc cctttcctcc tttctttgaa ggtttttccc ctctcttggg accacttatg 31740
caccttaaga cccctggacc ctcatgctgc acctcattgt ccctaagcac tgacgcacat 31800
cacagtgaga aaatagaaaa taatgggacc caaatgtccc caaaagacac cagccctcac 31860
agggagccag cacctggttg gggtacactt tgaaatggcc tgtagatgtc tcagcctctg 31920
cctcctccaa gtaagcaccc tgaaagcagc tctgcaactc ctcaccattc atcaccagcc 31980
cccagcatag tcccggtaca tgacaggcag tatttgttgt ttagctaaca atgaatgagc 32040
atgtagtagt gccatgcact gttgcagttc atttaatcct gacatcagcc ttaagaggca 32100
aatgctatta gtcccatttt acaagtaagt cacagagaac ttgaaatcac ttgcccaaga 32160
gcccacagct actaagtgac agaaccagga cacaaactca atcggctaca gaattcttta 32220
gcttaactga aatgctcatg actcatacaa gagatattga aagtgtgtgt gtgtcagggt 32280
gaaggtgggc aggggcaggg gtagaaggaa gaaagagaaa gacaagaaaa gaagggtggt 32340
aggcagggag ggacagagga ggagaaaaag tgaggtggat ggaagggagg ccactaggtc 32400
ccgggcacag gctttccacc ttgagaggca gcaactctat acggtcagta ccctacagtc 32460
cagagactga cccaggttga acaaactctc aagtgactga tgaataagcc agaatatcaa 32520
tcagtttatt agtttcagag agaactatta cttccaagaa aaccagagtc tcacgtccat 32580
tggtgggagg tcaatgtaca tgggaaaagg atcagcctca tctgaagctt gcgtggaaag 32640
caaggactcg gtgccagaga gccacaggat gatgttaatg gcttgtgtca gtgagttatg 32700
attgtctggt gctccctgct cctcctagac ccatctgtca agcagagcgg atgtttctgt 32760
cagccagtcg ggacccccttg ctttggacaa tgccggaaaa acactgacaa attactgctc 32820
cgtggcatcc ccttcctcta gaccatgcac agaccacccc actttggtta atacatttgt 32880
ttcccagacg aggcacattg tgattgatta gatttcacaa ttgattaggt ttcacaatcc 32940
cagatgttta acttcattat gcatggattc ttcttactaa cataatctca gaggacaacc 33000
atgttctgaa aaataaaaag gggaaaaaaa caggacttat tctcaggcct gttgctgctc 33060
tcatcctcta agttggctct ttgtctcaga aaagggtcca gtttgtgtct tcacagtgtg 33120
aacaaattgg gaactggttg ggaggggggac atgatgggat gggatgaaaa ccaagcctgg 33180
attaaggagg ctgactccac tgcagaggaa tgagcttaca gctcaaaaaa ctgtgatgct 33240
actctagtta gtctaattta atcctagctg cttgtgaagg ccatgcatag gctgcctagc 33300
ttatcaaatt tctctggtac agtacaagac cttataacca gtagcagaat tttttggtgt 33360
cactactaaa agtcatattt aaatttacca agcaccttct acattgtaga tgttgtgtca 33420
aactcttaca cgcatgtgtt agttaaccat tgctgtgtaa caaattatct tccacgattc 33480
agcgtcttaa aacaacatgc atcgactgtc ttgcagtttc tgtgggtcca ggcacagcct 33540
agctgggtcc tctggctctc acaatgctgc agtctcatct tgaggctgga ctgggaaaga 33600
ctcacttcca agctcatgtc catgattatt gtaaagattt cttccctctt gaattgttgg 33660
actgagagtt ctcctcctca gggagccccc atgagctttt ggctggagac ctccacactt 33720
ccttactatg tgcccttctc catagaccat ctcataccat ggcagcttgc ctcattagac 33780
tgagcaagtg agagggcaag gaacagtacc agtgacagaa agagagagag agagaaggag 33840
aacgctagca agaaagaagt cacagactac agacttaacc atggaagtaa caacccctta 33900
cttcgctcta ttccatttgt tagaatcaag tcactaggtc ccatgcacac tcaacgggat 33960
gggatacaga ggggataaat actaggaggt ggggattgtt gggagccagt cagaagcaca 34020
tgacctcctc aaggcaaccc tgtgagatag atgctattcc tgttctatga attttccaga 34080
tgtggaagct cagagaggtt aagtcagttg tccaaagtca catagcttgc tgatggtgga 34140
atcagatctc acatacgaat ctgattttat aatcattcac tgagttcagc ttggtcaagt 34200
gattttccca tagtggtccc aatatcctat caaaagaagg tcactcattc tgtcaatgag 34260
taaggttggt tgcctctaat ttagcatgag actaatttga agggagacca atttttggtg 34320
gccactagca tcaggaccaa gatctgggcc tttccaattc tggactttga atctcagact 34380
tgctgcagag atgtcctgtg ctcctcctcc aacctggctc tgtcaacaca aggcagtacc 34440
tcactcttgg tcactgcctg gtttcccttc cctattattg tagctgatgt ttgtatatac 34500
agtattcccc ttagcaacct gcccaatgac ataaccctgt agcaccaggc atagttcaat 34560
aatgtctcat aaacacttat taaacactac tttgtaccat gaattgagtg atgcagagaa 34620
aaatcagaca ttgcacctat cctcaagaca gtcacaaagt gtcttgattc tagcattgtg 34680
ccatccaata cagtagctac tggttacatc tggctaccaa gtacttgcaa tgtggctggt 34740
ctgaaatgag ataagttgtc actctaaaat aacagtggat ttcaaagaca tatgaaaaaa 34800
gtaaaaatat ctcatcaata tttttatatt gattgtaaaa caataatatt tggggtatgt 34860
tgaattaaat aaaatatact attgaaattc atttcacttc tttttagttt ttttaatgtg 34920
taatgtggca ttccacatcg gactcacatt tgtggctctt gtcacatttc ccttggacca 34980
ccctggtcta gaggcaggga gtcacgtgat acccacaatt cccatttatt gagggttcac 35040
cctgtgcctg tgttccacat actctctctc tacatggaac acaagttatt tcatctagtc 35100
ctcataataa actcatgcag tagacatcat tatttcctct taccactaaa gcggaggctc 35160
ggtggactga agcaccttgc ctacagccac acagtaagtg ggtgagcaag actgagaagc 35220
tatggggctc cagagtccat cagaaagagg aatacacacc tgtgctgttc agagtgatgg 35280
acgctggaat ggagccacat ggggaaccca ggagaaagca tccaactcca ccttggaagg 35340
ccaaggaaga cctccagata gacatgacgc ttaagctgag taagcccaga ataaagatat 35400
ccacgaagcc aacaggcagg agagagcttt cccagcagag gaagcagctg gcgtgaaacc 35460
ccagaagcat gaaactgcgt ggtgcattca gggaacagtg tgggtttgac ataagaaagt 35520
ggagggagat aagacgagca acataagcag aaactttgca gtaaaagaac tacacaccgt 35580

gcagaggggt ttggactttg tcctgttggg tcagtagtct caactctggc cgcgcattgg 35640
aatcaccagg agaacttttt aaaataccaa tgcccaggac ccatgtcaaa gcaattaaat 35700
cggaagatca taggagatgg tgatgaggtg gcccaggctc cagaatttgt taaatactct 35760
ctccagcgat tctaatgtgt ggctgggttg agaagctctt catagtatta ggaatttgcg 35820
gaatagcttt aagaaatgaa gtcaaatgat cagagttttg tcttaggaag atcattctga 35880
gggttgcatc gaaaatgaat tattttccat tctccagtaa ctctggaagc cgggaaacca 35940
agcgggtttc tactgaaata gtccaggtca gggatgctga ggcctgaggc cacgtagatg 36000
aatggaatgg ctgtgggggt tgaggtgcgg agccccctga gagaggcccc tgctatggtt 36060
ctgaccacct ccagcctcaa gcacttccaa ctgcctcctg catctctccc actaggtgtc 36120
ccacagacat ctccagctca tcacatcctc attggaatta ttacattccc ccagagcctg 36180
ttcctgcagg ttttcctaag gtttccttca ttcccctcat ggctccctag aaaccctcca 36240
cccctccagg tccatcatca actcctctcc ctctctcccc tcttttccca catccaatca 36300
atcagcaggt cttgttgctt ttatcctcaa agactgtcag aacagctctt ccctgtcact 36360
ccccagcccc tctcttattc aggctctttc atttatggct tgaatccttg tgacattccc 36420
tgtggcaatc gctactggat ttggatgtcc aaagccattt gaaactctga ttcaataggt 36480
cgggtgtagg gctcaggcat cacacacatg cacacacaca cacacacaca cacacacgca 36540
cacacacaaa gagatataat ctcccaaagt tattctaact tcgttttaga tatgtggttc 36600
taaaagtatg tccttgtacc agcagcatca acatacctgg gaacttgtta gaaatgaaaa 36660
ttcttggacc tccaccccaa gtctactgaa tcagaaccct gggggtaaga cccagagagc 36720
tgtgctttaa caatcccttc aggtcatttt gatgcacatt caggttcaag aatcacctat 36780
ccaaactact catggaaatc tcattcccac ttgctaatga ttgattttca gtgtgcacat 36840
aacccagttc tggccaatga aacatgaaag aaaatcttcc aggagggctt ctggaaaaaa 36900
aatgttttct ccctgataga aaaagggagc catattttaa aaaaagctct ttctccaata 36960
tgtatacttt atgtgagtaa taggacctgt tctcatgtga ggctgtgatg cttggagcta 37020
tggctgctat cctgggacca tgaggagaaa gtggagagga tcacaggaaa gctaatccaa 37080
aacctgatgt taaactttca aattaatcaa ttctggaact tcccaatctt catatctgat 37140
gcaagatcac tgtcattctt atttaagcca ctcttagtta tatactttct tacttgcagc 37200
caaaagcatc ctgacttcta tagcctcctg actgttatcc atagttccag gctcttccct 37260
tcaaatctat cctactgtga gaaactgtga agggtcttag attttaccct atctacaggc 37320
taacaactga gcatgaaccc tggtgaaagg cataaaactt cttggtcaga ggcaaaatat 37380
tgtattactc atggtacagc aagcaccatg tttgcatcag ttccccttct tctcaagtca 37440
cacagggaca acactgtggg cccatgtggt acctacacac ccagtgggtt gcattacagg 37500
agaagaaccc caagccaagg gcccaaaaaa gcagtaagca gcaaacaaca aataggttct 37560
cctcctgtcc tcccaggtag ggatggttac cttgccctac ttagtcacct ttatgaccag 37620
atacagaact gctcagtatc gagaaagaga caaaccctgc aatctgagac attcagcaaa 37680
aaagtgcagg gaagttcaga gctcatagtg aactgccttt ccaacaccgt gtttatcttc 37740
cagctagagc tcccaaatgt ccatggctgt agtcacctaa gtccttgcct cagataccag 37800
cagagtctga gctagcttga gcccttaatc atcccttctc atttctggct gaaacctatc 37860
acaccctcca aaaaagactg actatgcccc agcggctcaa ggatactcac caggcacttt 37920
ctcttacctc cgcacagagt ccacttcttg tctggcatca cagttttcca gactttcatc 37980
ttccaccagg cccctcctct catctgcatc tctttgaatt tatgcttcag tgacagtctc 38040
agtcttgatt ccccttttgg tcctacgtgc ccagggttct gcattttcca gggcagtccg 38100
agtctacttt gttctctcac cgccagcacc ctggacttcc accagtccag atgagagttc 38160
agacaagcgg ctccctgttg cctcctaagc acataacact cctcactctg gaatcaaagc 38220
cctacatgcc ctcctccaat ttccttctct gaaattatct ccaactatcc ctctacagtc 38280
tacacactcc ccagggttcc tggactatgt ggttttctcc atcccatctg ttgtttttcc 38340
cctctagacc tttcctcatg atctttgctg gatttagaat gtgctcttcc tccccactct 38400
gctcctgggg aaatcctatc cctccctcag gcccatctga aatgaagact ttggtaaacc 38460
tctgtacggt tctctccctg ctggccaggc cctctgcttc ttttcaaccc aggggctgtg 38520
agcttctctt acagttctca tctttccagt cttctgtgac gtcctcccag gctggtctca 38580
ttcctgctgc aaaataaaag ctcacaaaag cagggactac ttgatactcc cttttgtctc 38640
cctttctgac ctgagtactg ttgctagctc tgttactaat agtgttctcc cctaaatgcg 38700
tttgaacacc atgactgctt tttcctaact aaagcaaatg agaaagccct gctgtgaact 38760
gcatccccgc catgctagtc catttttctg ctgccttaga taccagagga gggatgaagc 38820
cttcgtgtca ctgaaactga tgtcacttgt tgagtccgcc aaagggcaaa taggcaaaat 38880
acaactctat aggggaaata tgttgtgatt gggggtgtgc aaactacaca atctcccaaa 38940
cagtgtgctg agaattgatt ccaggtatat ctggatactt cagcccttgc agtagctagg 39000
tggggcctgg attgggctga gcctagtggg ctgtaaaaac atcacttttg tgtatttatg 39060
aaaataaaaa ggattgaaag cctagcttta gggatgtgga attcctagca ccaaagggcc 39120
tagcatcttg agggtctaat cctgcaaagg tttagactgt ttcactcata agcaccaaat 39180
aaagggaatt gtcaatgaaa tgaagataag aatgaggagt tgagaggggg acaggctatg 39240
ctgaaaaatg tgatgaaagc ttgtgtatgg attgggacta ggatggaatg gctcagaaga 39300
aacgagatgg gcataggtct agcatgaatt gtggtaagaa caggaggcaa tgggttagag 39360
agggagttaa tggaatttgc gtgagctgga aatagggtgg atggataggg gagtaaggct 39420
ccacccagaa aaacccacct ggcttcctca atgtttcctt tcctccatcc ttcccagtac 39480
cctgatggat agctttgcac agataaattt tgttcccagc ccatgtccaa acaatatcac 39540
aaaatcagcc ctagccagtt gtttctgttt acagccctgt ctgtgattga tccagctctg 39600
gaaaagccca tttatcatga ggaaccaaag cttcatggcc tactgtctat tttgttgctt 39660

tattccctag cactaaatgg gacttcagga cctcccactt gttccagtac ccaatgacat 39720
gcctatattt ccacactcag tttgcccttc ccttcagccc ctctagctct cagccttcct 39780
gggaccttaa ataagtcacg cagctccttt caccaactct tttcttgttc tcgttacttc 39840
tgggctcttc tgcctttcta tctcgtctcc ttctctcagc agctcactgt cctttccaat 39900
ttcagctgaa atcagattcc ttctcccttg cctttgcttt cccacctccc atggcctctc 39960
ttatcattta ttatttaact cagtcaccat attatgtatg cacaagagcc atttctgaac 40020
atggtcggca tgaaaaaaat aggacccaaa gcagaagcaa acacctcttc cctatcagtc 40080
tcacagctcc attgtcatcc tgctccagtc ctgagcaagg tccagcgaaa cagccagatc 40140
tggccaacac accctcaagc ccaattaact tcttaggttg gacacaggga aaatttccag 40200
atggcttttt acagatatcc ttcaatttat gtaagagatg ccttcctgga agtggatgtt 40260
tgaatgaaat tccaaatgga atatcaggag ggtcaggcac acaggatgtg tggttcagag 40320
acccaggttc tattcttctt gagatggagt ctcgctctgt tgcccaggct ggagtgcagt 40380
ggtgcaatct cggctcactg caacctccac ctccagggtt caagcaattc cctgcctcag 40440
cctcccaagt agctgggatt acaggtgccc accaccacaa ccagctaaat tttgtgggtt 40500
ttttttttte ttaagtagag acggagtttc accatcttgg ccaggctggt cttgaactcc 40560
tgacctcatg atccacccac ctcggcctcc caaagtggtg ggattacaga cctgagccac 40620
cgcgccctgg cctccagctt ctattcttta atagccctca ttaacttact tccagaactt 40680
gggcaagacc tgtagcttct ctagatctca atttccccat ttataaaaca agggagccag 40740
actatatttc ctcaagtttc tttcagtgtg aaaattcaaa aactcctatt ttacttaatg 40800
atccacatga ttccattgga gatccttcct acagttaaaa ttcagctctc tcctcatcaa 40860
taggtcatta cggagcatgt gctatgctgc tgcgcctcat tagaagggaa tgtagattaa 40920
cctggtgaag ccctcctttt atagatgaag agaccagagc ccagagagga gaagcaccta 40980
atcctggggt cacacagcca gtgagaggca gagtcagtct aaaatgtaca agtcctggcc 41040
tgagactact ctttttttcc tgtgtggtgt tttaagcatg actgcaaata tttttatcct 41100
ccttccatca agaggtagat ctatgtcccc tactttcttt ttctttttte ttttttttte 41160
ttttgagacg gagtctcgct cttgttgccc aggctggagt gcaatggcac aacctcagct 41220
caccgcaacc tccacttccc aggttcaagc gattctcctg cctcagcctc ccaagtagct 41280
gggattacag gcatgtgcca tcacacccag ttaactttgt atttttagta gagatgaggt 41340
ttctccatgt tggtcaggct ggtctcaaac tggcaacctc aggtgatccg cccacctcag 41400
cctaccaaag tgcttagatt acagctgtga gccaccacag cagaccttgt cccctacttt 41460
ttatttgaat gggtccttgg cacctcccac caatagtaca tttggaatga atgctatgta 41520
acttccaagg cagggtgcat agaaggccat acagcttcag cctagctctc aaaggacatt 41580
tattttctct cagagccttc atgtaagaag tccaatgggt tgggtgctgt ggctcacgcc 41640
tgtaatccca gcactttggg aggccgaggt gggtggatca cctcggaggt ccggagttca 41700
agaccagcct ggccagcatg gtgaaaccct gtctctacta aagatacaaa aaaattagca 41760
ggatatggtg gtgcacacct gtaatcctac ttactccgga gctgaggtgg aaggatctct 41820
tgaatcccgg aggcggaggt tgcagtgaac caagattaaa acactgcact ccagccttgc 41880
tctgtctcaa aaaaaaaaaa aaaagtctaa caatcctgag aactccatgc tctctcagct 41940
gagcccaccc gtaagccagc ccagcccagc tgccagacat atgagtgaaa aaactattgg 42000
aagtggatcc tccagccccc agtggttgaa agcacccca ttccagtcct cccctgaaag 42060
atccacctct gtgctttttt ctaacttctg acccacagaa tttgggatca caataaaata 42120
gtggttgttt catgccacaa agctttggag cagtttttta catcgtcata gacaacctga 42180
agaactagta aactctcatg ttggctaata ttcttgggct cccttccccc aggtgaccaa 42240
tgccaggagt gtgtgacttg cagcacatgt gctgaaggtg gagagaggta gcctctgcct 42300
cctcacactg cacatccccc cacctgcctc cagtgtggtc agttcacata ggctttcact 42360
cctctgccca ggcaaagttc tcctctctcc tgccacggtc ctttgtttat atcgtgagtg 42420
caggcttgtc acacggatag caaccagatt atttatgttt gtcttcacta gactacaggc 42480
tctaaaggga cacagctgta ttctatgcat ttccctgtgc tgaggcctag cacctagtgg 42540
gcgtgaaata aatacgtgtg gaatgaaact gtcaaagacc atgtgaccag ctggccctga 42600
ccccctgcta acaagcagca gacccagaac ccctttctgg ttctcctcca ggcagggcac 42660
agttgtttcc tatctgagca ggctccattt gcttcacatc agcccaagaa cagggaatgg 42720
gaaatgcctt gtgctgcagg agggaagaca aagtaagcca gagagcactt ggccatctgg 42780
ggctgggagc ggaagagaat ggaaccattc tggagagcca gacatttgtt ttgtagttgt 42840
tgcctttgtg aatgtacatg tcctgaaacc ctggttaatt ttcttgttca aacattggtt 42900
taaaattgct ggctctagga gagatactgt ccttcagcag gttctgttat aaactttgca 42960
actccaaggt ctgattcagc agcaagctgg aaaagttcct ggttgctaag agaccagaga 43020
gcaaattagc agctcacaaa agacccagct aagaccagta aaaaataaga caaacgaaaa 43080
caaggtagga aatgggcctc ctcaaaatca aaataaggta aacaaactgg ctaggaaaat 43140
gtctgattgg aaaagacaat tataagtatt cttcatgctg aagtaaaatg cactataggt 43200
agctaaactc tatctttgtc tttttgtcac ttgaagaaaa cagcagggga gccccttttct 43260
agtcctgaaa ttccggatct atgagtcaga gggaaaaaca aactgtccca gttgataagg 43320
aggaaagaaa aaagtgaaat aggctgcctc ttttatgagc tctccctgcc aggacggtga 43380
atgggctacc tggggtggtg gcccagaaac attcctgcaa gcaaacaaaa gcctcccccc 43440
aggaaaggtt tctgatcact gctggtccaa ggctcagccg caacagaggg ctctgacccc 43500
cacaggactt ggccagacac ttcaagatcc catctggcaa tcaagcatga gaattcaggt 43560
acttgtaata agaaggggca aagagaaaag taccaaatag gtcccaggta ttaaatattt 43620
attttgttaa agtgcctcta tagctatgat ttttagtaat ttcttttctg gtcagacaat 43680
ctagtaaaat attatattaa aattattttt aatcaaaaac agaaaaaagc atgccaatca 43740

cttacctctg atggaaattc attctccaag acacacagtt ttcctaagaa cctactgctt 43800
agctggacaa aatagtagga aaatgctcca agtggaaatt accagcctct tgagggagga 43860
gcttgaaaat cttaagtgat cacagaaaag tcacagtcat ctgggttttg gagaccagag 43920
aagaaatgaa gaagggcaaa aaaaaaaaaa aaaagaaaaa aagaaaaaga tggggtgtgg 43980
ggaggaagat ggggaaacat ggagctacaa attgggagaa aattaaggca gccagtaggc 44040
atatgtcagg gagctatggc gtgatatgcc taagaactat gtgactgaat agcctccact 44100
tatcaatatt tgttggacag caaaaggatt tcagaatatg atggatccaa caagcatgaa 44160
ataatcttta ggggaaaaaa ttacaattcc ccacatggca gcttccttca gatcttttct 44220
gacaatcctg tttgtcagat ttctaaatcg catgcaactg ctatatttta ggcagagctg 44280
gtatcttcct ggaaaaagac cgtcccaaat attcagtgcc cctccctgca ggagaaatag 44340
acacctcctt tctgatatat gcagctctgg ccaaatgact tgctttggcc catgaaatgt 44400
gagcagaagt cacatgtgtc actttggagt ataagtttta agagctagca cgtggttctc 44460
tggcttttct cttgctgtca caatgaccag aacatgttcc agatagtgcc ttatccaaca 44520
ggcttggtcc ccaagagaag aaagcatgga acagagctgt ggctggattg cagtggacac 44580
gtagcccaga tgaaaaataa gttctgttgt ggagttacct gcaattgcag caaaacctag 44640
cctatgtgac taatatacat ggcccacggg actaaaaggt ggccagagtt gcccctcgcc 44700
ctcattcaca ttttctcact agctggccac agtctcacct tgagaggaaa gtcattatgc 44760
tccaggtggc tttcttagaa ttcagatatg ttgcctgact gacccaggaa atcagggctg 44820
gcagccctgc tgctgagcgt ggttcagtac ccaagaaaca ggcaaagatg gcgcacggag 44880
ctgagaggag acagaaccat gaacttcgag ttggaaatgc caggttggag ctggctcacc 44940
agttctaatt taacccaaaa agaacaaaca aaaaacaaaa caagcaaaca gaaaaaaaaa 45000
aaaaaaacac tagaccttct tattcctacc tttagaactt tagagagtgt tgatatttaa 45060
aaaaaaaaaa aaaaaaaaaa aaaggcaaac aaacaaaaaa ctgacccccа aagccaaaag 45120
aaataacatg tctttattga agaaatgtcc attcttcctt caaagcctct ttcccttaac 45180
aaacgtggta tgcacagcaa aatggaaaag atgtcagcct ccacagtaca gaggaggtga 45240
gaagatctgc ttcccagcac actgtggaaa ggcagggcct ggagcaaggc tgtgacctca 45300
gctgcacatc tgggtcctaa gaccactgga gggagctgtg ctgagtcaag gttagagagc 45360
ccttggcaag cagatccccg gcaaggcagc caagtcaaag aggaagtttg aacacttaat 45420
gggacatcaa atgggatttt ccctgcaatc tcagaacttc tgctaaaagc cctaaagtgg 45480
atagcaataa gtaaaagtgc ccccgcagtc taaaaagaaa gtgatcagag gatacctgca 45540
ggattttctc aaagatgagt gatccaatcc tcccatccca cctccaccac cccaagagaa 45600
tactagaaga tttgcgagtc cattgaaata ggcgcatttc taagagtagg gagttgtcag 45660
cctagtagga aaggctaggg tgtttctcca tccctccctt tccccatgaa ggcaggagga 45720
agatgtttct cccatcctca agtgaggcac aaagatccaa gagaacagca gggaggtcag 45780
gaggccttcg agagggagag agtgagtcca atacccagct gggtgctggc tgagccacag 45840
aaaccagtag gctgacatgg tgctccccag acaggagctt ggggcttgcc cttgccccca 45900
ggttctggaa cagggaggct ggcacctgct ttttgtccag agaattgtaa aggaatgtag 45960
gaagctggct gggctggctt gcagtggcaa gtacagagag ggcatgaggt gggcatccct 46020
ctcatctggg ccacgtgacc actacggaat gtgtccctac tctaggtctg ataagacttc 46080
ctcctaaaag ggaagcccag gaactagagg caaggtgtgg gggaaggtgg taaaaagcag 46140
actaggccac ctctccaagg cagacctagc tcaggcttga gctgagggat ggggagggga 46200
gaagcatagt gctgggtatg agattgaagt tttgatttag cccggccacg acctttcaat 46260
gcttgaaagt gaggtgaggc agccaaaata aaactagtta ttataactga aggtgaccaa 46320
aaagctgtgg gctgtgcctg aaacaacgtc aagggatggt ccagaaataa ggaagagaaa 46380
tgcaacagag agctagaaaa caatagttgg agaaaaataa agccacctcc tgattgtact 46440
ccatggagtc acatcggtca aaaaaccaat tacaattgga gggaaattca ccagagagag 46500
aagtgctgtc tagagagtaa ctatgattgg ggagaactgc ccaaagacat tccattctcc 46560
atctcattag agtatgcatt ctccagggtg tgaatgctcc caagtgctcc caaggggtg 46620
gaaattggct ggggtggggg tgtgaaaaat cttagatgtt tcaaagtttt atgaccctcc 46680
aaagtttaat cctgcccaac aaaatagtat gtaattattt cttaatttat gtttactata 46740
catttattta tcaatacata tcttatctct ctataaattt atattatttt atgttattat 46800
ttaaaatagt gtttaggata gggaaaaaat gaaaggaagg gaatttttt tccttagggg 46860
aacaatgctg aagaaaagtc tagaaacatt gagttagaga gaaacacaac attcaacctc 46920
aaaccagaac tggtgtttgg ataaaatttt tctggctcca agtagaattg ctttcactga 46980
atttgttttg atatcctacc ttttgagggc tttatcctct gcttcacaag gtgtcctttt 47040
catagggacc cagaagagaa cgttctttca ggtttcactg taaagaaaag cagtgcttct 47100
tctggataaa tggtttgttt atcttttatg ttttatcttt tatgagattt gttatgcaca 47160
tctcaaatta gatcaagttt ccctctttgc ttcagccaca ggggagctca gggcaccttt 47220
tgtaaccact gcaggactgg gccatatgca tatctgggac tttgccttat ctgtgctttt 47280
agtatttttc tacttttaac tttgccccaa ttccctcaac tgtgttttaa ctctttccta 47340
tttcatgtat ttttataagc cccctacaat cctttgtgga atatgtggga tataaatatg 47400
taaagaggaa cactacctct ccttccaaag ttttctttcc gcccactctt attaagtctg 47460
tccttataca gttgcttttc tttttaactc aatgcacaac taaaaggtat tctattgggt 47520
tttatctttt tcttagtttt ccaggatatt aagatcatct tgaaaactga ttctgtaacc 47580
caacatgttt gccaactttg tgttatccat agtgttgagg accatacctc ccatgtcttc 47640
atccaagtca ttgataacaa tgttgaatgg aacagggcta agacagaccc ctaaggtatg 47700
ccactagaga ccttcttcca gccaatatca atgcactaat ccccttttctc ttctgatatg 47760
gttgaaccaa cgattagccc accacatttc tgccatctgt cttctggcta agctacttgg 47820

tcaaacatct ctctgaccaa ggagcctctg cctacagcat tccttagacc tgttactctt 47880
aatatcgctc cccaaaagga agtaggctga cactggatgc cgggaactca actctactgc 47940
aattgtgtgg ctgccacctc tgcactggaa atttgatact ggatcccaaa aataagaagc 48000
ctgagttgcc agctgcatga gtaaaatgaa tacaccaccc agagctatgt gtttccaaat 48060
caaagtctaa tgtaggttct cctcaccggt ggagcctggg tcacatgact ggcaccagct 48120
gcaaaaaata ctaaaaatct cagttctctg gattctgcct tggagcagca gttcccatat 48180
gtcaggaact ctaacaagga ttagaatgat gctcaaaaag tgctaagcag tcagacatga 48240
cgaatgtccc tagagcccaa atggtggggg gacatggctg cccaatgagc ccaggctcca 48300
tcctgcagtt ctcagaccct tctccaagct cctaggagag gaaagccagt gggctaacct 48360
tggacggggt gctttccaga gacagtctca gctagtttgc aaggggtcag gcagtgctgt 48420
gaaggctgtc ggtgccctcc tgatgtcccc tcagggcatt tgatcccctc ctggtgtgct 48480
tccacctgag tcagcaggca cctgagtctc tgtgtcagag gactgttctc gggcagcctc 48540
agccctggga attcacatcc cctaagacaa ccctcaatca atatgattga caacataagg 48600
attaaacatt ctccagcctt ctccatgatg aaacaactct gaagtgtgac ttacaccatt 48660
aacagacatc ccctgtggga ctcttccaaa gttaccctcg gggacacttt gcttcatact 48720
cacttctttc ccttctttct tccagttccc tacgacctct ggattttccc tgggaacaca 48780
cttcctaaca ctttcacaca aacctttgcc tcagggtctg cttctggaaa ccaacctaaa 48840
acaggaaacc atggctgccg gaagtccatg gtggtaaatc gggaattact agagaaggaa 48900
tgaagagaag accccaaacg tgtccgttgt ccccctggtt ggacccctc cagaccacct 48960
tggttctgaa tgtagaaact taacctctaa atatctgccc aggccctgcc ctggtccaga 49020
agcagagctg gaactcaaaa ccagttttgc tgaaggtgtg caccttccca acatccactg 49080
gtgagaacat cccagcacac tgctctgtaa cttccagaat tcattccttt ccccttttg 49140
aatgtcaaga gctcatatgc ccatctcatg tcattgagcg caaatccctc ccctataatt 49200
tatcaaagat tgatgacagt gactctgaaa tctcatgtca agtccctccc aggctgcacg 49260
acataattca tcagggtcag agccctgagt ttatcacagc tgctgctacc ggctttactg 49320
cctcaatgcc tgtccttgac ttcaatcccc tctttgcaat gtttgttcta ccctttcaa 49380
ttggaagacc actttcctta ctggaaaaga aggaggtaaa atcatagtta ggcagcacag 49440
ccctcacttt accttcggcg aatgttaaat cattttctcc acgcaaatct ttcccttaat 49500
ttttgcatgt agaacagaga acaatggggt tcctcagaga gttcagaacc cctagctcat 49560
ttgagacagt agattttcct accccacttc ttacaggtgg ggccacactg ctggattcag 49620
cccttgccct ctgtcactta ggggacgctg aaggctgttt tacaaaatgt gaaccttcat 49680
ggccacttct gaatcctaag ccaactgttt tcggacccag gctgcttctt ctcctgctga 49740
cagctgtcac tcctttattc ccaaccacct ctctacttaa gagcctgact aaaagttttt 49800
ttttttttt ttttgagacg gagtctcgct ctgttgccca ggctggagtg cagtggcatg 49860
atctcggctc actgcaacct ccgccccca agttcaagcg attctcctgc ctcagcctcc 49920
caagtagctg ggactacagg agcatgccac catgcccggc taatttttgt atttttagta 49980
gagaccaggt ttcactatgt tggccaggct ggtctcgaac tcctgacctc ctgatccacc 50040
cacctcagcc tcccaaagtg ctgggattac aggcgtgagc gaccgcgccc ggcaagagac 50100
taaaagttct taattatagt ccctggccca tactttgaat tctcttggct tttattcctg 50160
agggcaggcc tcatgaaatc acccctttcc atcactttaa gggaaggacc atcctgcctc 50220
atcctcagga agtaacattt ttctgcaagg ttagccacca acaattgcct ttagggtcat 50280
caaatttttg agactctcaa gcccagaaga tgccctggtt ccctggcttc taagcctctt 50340
gcgtccctaa tttcttacta caacttaccc ttccattctt gcactatttt tttctaatct 50400
agctataaga gagattcact tagtttcttt agctaaattt ccatttttcc tcttcagctg 50460
gatcaatgct attttaaaac aacaacaata ccaggaagag taaatgagaa tctaacgaaa 50520
atagttatct gcagggtgtg aatagaaatg tagaaatgta gcaaaagggc tagggatcgg 50580
agggagacat cttctagtat accgtcttat atatgtttga tttttcaatc atttaaatgt 50640
ttttacatgt ttagaaacaa aattaaatta ccaagagcga aaaaaaacta aacctaaaga 50700
tgagttttaa caaaagcaaa tgaaacctaa ttctgtatca aatcatatag aaaaattcta 50760
attcaaagaa tttgggacac agtaccctga ctatacaccc ttaatggaat atattctaaa 50820
gagaataaac accacaaaga tgccttaaac ctgactgagt aggtttgttc ttagtagtat 50880
aactggtgca gtaactctga aatgatttgt gtgtgttgta gaatagagaa agttaatgaa 50940
tatgttggca ttttgagaac caagttctca ctgtgagaga aagaacacat gaatagggat 51000
tgtgggaagg gaaggaagac cctggggtgt tggatttgaa ttggaagtat caaagtaaat 51060
acaagatttc ttttttgaa aaagtatttg ctagctctat ccactgaaag agcctagaaa 51120
taacaatgct ccaatggaat gagtgcacca agcacccaga atttggtttt ttaatagtgt 51180
tctccattga aaggagccag gagccttggg agaaatgact gatccgattc tggagcagag 51240
acagtacagg gtaagcctag gatgtcaggt tgcgctaaaa atcaagaaag tgctcaaatt 51300
ctaatggtga catgtcaaag gagcacggga gccaaactga aagggctccc accaggcaaa 51360
ttttggacaa tttgagtttt aatatttgta attaattatg acacatggat ttttttaag 51420
ttccccagtt catggtgata ttcaaaaggg tggggaaact cttcttcatg aaagaatgcc 51480
tgttaatgaa gtagaatgat agaattagac aattaccatt ttacaacgta gtgagttact 51540
cggctaagaa tcatcggtgt attctgttac cattgaataa aaggttggtg agatattcat 51600
gcagttcaaa tataacccct tcagattact tagtaagtaa aaaggggcaa gggtgcaatg 51660
gagaacagtg gtggacacca cttaaccaaa tgatcaaact cagcatctaa taacgggacc 51720
aactgacatg aaatggcagc caatttctct acaatagaaa tggcacggat tcttcaaaaa 51780
tctcaggaag gaccgagcac agtggctcac gcctgtaatt tcagcacttt gggaggccaa 51840
ggcgggtgga tcacttgagg tcaaggaatt caagaccagc ctgacatagt gaagtgaaac 51900

tccgtctcta ctaaaaatac aaaaattagc caggaggtgg cgcacgtctg tggtccctgc 51960
tacacggaag gctgaggcag gagaatcgct tgaacaggga ggaggaggct gcaatgagcc 52020
gagatcatgc cactgcactc cagcctgggc aacagagtga gaccctgtct caaaaaaaaa 52080
aaaaaaaaga aagaaagaaa aaagaaaaga aaaaagaaag tcaagaagaa ttttaaaaaa 52140
tgatctattc tagactcaag gataataaag acacatgcaa tgcatgatcc ttgaatcaag 52200
gagggaacta caaaggacat tgtggggaca atggaggata tttggatgtg gatagtatat 52260
gaaatagtgc tatatcaata ttacatttct tgaatgtgat atggtattgt gaaggagagt 52320
atctttagaa gagatgtgct gtagtgttta agagaaagta ttatgatgtc tataacttaa 52380
atgattcaga ttttttagaa atatatatat gctaggtgtg gtggctcatg cctgtaatcc 52440
cagcattttg ggaggccgag gcgggcagat cacctaaggt caggagtttg agaccagcct 52500
ggccaacatg gcaaaaccct gtctggcaaa accctgtctg tactaaaaat acaaaaatta 52560
gcccagcatg gtagcacatg cctgtaaccc cagctactca ggaagctgag gcctgtaacc 52620
ccagctactc aggaagctga ggcaggagaa tcatttgaac ctaggaggca gaggatgcag 52680
tgagccgaga tcacgccatt gcactccagc ctgagcaaca agagcaaaat tccatctcaa 52740
gaaaaaaaaa aaaaaagaaa aaagaaagaa acatagataa atagatagat agatagatag 52800
atagatagat agatagatag atagatagat gatagataga taggcatagg catagataga 52860
gagagagaga catggctaat gtaagtgaaa cgttccaggt gttcatcgta ctcttctttc 52920
aactcattca tagatttgaa acttttttgaa attaaaaatt gaagtaggag aatgctctgg 52980
cttcacctca aaccatttaa gtcaaaatct ctaggggtca gcccaagttt cttttatagc 53040
atttctccag aagtgtttac tgtgcatcca gggttgagaa ctactggcct acctgattca 53100
tgatgatgtc caggccctca gaccctgcct cagccccaa ggaccctgaa aataagtctc 53160
ttaaaggtca caggggcatc tgagtctcca gcaggccctt gcagccctga gtcagtagcc 53220
caggctaagg aggagagagt aaagagtctt catagaagtg tctgcttagc ataggaaccc 53280
tgactgcttt taggtccttc tggcttcctc ctgccaggcc tctcccttct cagaggcccc 53340
tctgagataa ccctcattct gcccttcag gctgcctctg aaaacctcag gcctctcttc 53400
ctcctccctt gttcataagg cctccagcaa gggaccttgc atggcacgcc ctcaataaat 53460
gagtgccagg tgagccgagg tgggctcact cacactgtgc ctctctcact gtcaccctca 53520
ggggggagga ggaaaagccc atatcaaaca tgggcaaagg gttttacttt gtccaaaaaa 53580
aaaaaaaaaa gcagaagctg aaggtcaaag aagcaaagag agtgggaagg actctgttct 53640
ttacaaagaa cagagtcatg acacctcaca ctggaccctt gctaggtgta ggtgctgtgg 53700
ccgcactgaa tctgtgttat ctcataaaat caacagccta gccttatggg gtgggtcata 53760
ctgtcattgt cacttcacac catgtgtccc cagcatcaca cagctggaac ctcagcagtc 53820
tcggaccaaa gcccacacct ctagccatgg tgctagactg cctacatagg acttaaggag 53880
gagaaggaaa gcaagagcca atattgatga ggcgcctact aagatgatct tgttgaattc 53940
tctctgcagc cctgtgaagt caatcttatc ttcttttgat gaagctgagc aaatggactc 54000
tgagataaag taatttcatt ccatcatgtt gaacaagcct aaaatgtatc atgatctgca 54060
ttgtcttctg tatgaatggc aatctctgga gttgtgcaac ccaggatcaa gagtgacttg 54120
cccagggcta tgctgccagt aagggatggt ctctggattt ggaagcaagg tctctcagac 54180
tttggcctcc ctggaaaagc cctgctgtcc cctcaccccc accacctcaa gtgttctgtt 54240
accagacatc tctccgcagg gatcagaacc tcccttctgc agggagaagt gagtcttcca 54300
ctgcgctgcc atcaaggagg tgtcagaacc ctgagctctt ctagacagac ctcagctgtt 54360
gaacatgtga agaacatgcc tttctgcaga tgatgaagtg ggatgttggg gatgagaaag 54420
cagaggcaga aaagtctgag gcatgccccc cacaattcag cagactgtgg ggtagtggca 54480
ctcatagcta ggatgaccag ctcatcccag ttttctcagg actttccttg ttttagcatt 54540
gaaagtccca catccaggga caaccttcaa tcccagtcaa gggagatggt taatgtcttg 54600
gtcagcttga gctgccataa caaaatccca tgatggaata aaacaacaga caaatttctt 54660
tctcacagtt ttccaacatc gaggtgctgg ccaatttggt ttctgttgaa tgctctctcc 54720
ctggcttgta gaaagcatct tcctagcgtg tgctcatgtg ggctttccct ggtgtgtgca 54780
catggagaaa aagtaagaaa aagagggaga acaagagaca ggaagaaaga gagtgcgctc 54840
aggagaatgc tccaacgtct cttcttaaag gacattaatc ctgtcatggg ggccctaccc 54900
tcatgacctc atctaaccct aaatacctcc aaaagtctat ctccagatac agctacattg 54960
gggtttcaac atttggattt tgggtagaca cagttcagtc cacagcagtt gaataaccta 55020
cttgcagcca aatccctctt ctcaacccct ggtccccgag atgcccaagg ggagaaggct 55080
atctattctt ccagaaaccc actcagccac aacagctagt agatgaatac cttgcactgg 55140
agtttctggt tttttccaga ttccaggcct aaggaaccct aagtggtgcc tggctttcgt 55200
ttccaaggca gagtctccta agagtgggct gggtagggag ggtgatcctc aaaactccta 55260
gttgctatgg ataaggttct gagagaccac acatctgtac acaaagtcac acccaaatgc 55320
ttcttttgtg ggcctttcca gatgccccag tcaagaggga gaaaaggcaa ggaggctgtg 55380
catagaccag ggctagaatc ctggctaaca ctcacagcct gcataacttc cccgtgcctc 55440
agctttcttt cctgtaaaat ggggatgcat tataagggtt agaataaaat gggtttcaag 55500
tgtttggcac ctagtaattg ttcagtaaat ggtaatcatc tttatttctc tcctgcctac 55560
cttgcattcc ctccattccc cctcccctac ctttcccatt ttttcattca ttcaacaagt 55620
acttattgaa taactactat gctgtagtca ctggggatgc aggagtaaat aaaacagttt 55680
ctccctccaa gaaacttaca tcacggcctg aaaaaactaa aagaaaaata aatatgaaaa 55740
taaatatgaa agtgacatta tgtgatggtt cactttaggt gtcaacttga ctgggctaag 55800
ggatgcccag atctttggta aaacaggatt tgtgggtatg tctgtgaggg tgtttctgga 55860
agagattagc atttgaattg gtagcctaag taaagaagat ccgacctcac caatctgggc 55920
aggtatcacc caatcccttg agagcctgga tagagcaaaa aggtggagga agagcaatgt 55980

ccctcctctc cctgagctgg gacaaccatc ttctccttcc tttgaacatt agagctcttg 56040
atccttgagc cttcagactc caaaacttac accactatcc ttccttctcc ctggtttgta 56100
ggcccttggc ctcagaacta taccactggg tttaccagtg aattattatt taccagtgaa 56160
ttataccact ggctttcctg ggtctccagc ttacagacag cagattgtgg aacttctcag 56220
cctccaaatt gcgtgagcca attcccatga taaatttcct cttatatata cagatggtcc 56280
ccaaccttca atggatcaac ttataatttt tcagctttac aatgagttta taggggtgta 56340
accccatcat aagtcaagga gcatctggac ttataatggt tcgacttttg atttttcaac 56400
tttacaagag gtttatcagg atattaaata cattttgact tacaatattt ttgacttaca 56460
atgggtttac cagaatgtag gcctattgta agccaaggaa cagctgcatc taaatatatc 56520
ctattggttc tgcttctctg gaggaccctg actaatacag actacgatag aggtgggaat 56580
ggaggccaga ggaggcagga gagtggatga atctgcagcc cagattcatc tagaatggat 56640
aaatggaaag ggatgaaagg gatggaaaaa gatggaagcc aagagagaaa gagatcagaa 56700
acataaattt tggaaccatc agagtcaaga tagcctttaa agccagaagt agatgagatc 56760
aatgagggag caatggtaga cagagagaac ctctgaggtc tgcagggctc caaccttcag 56820
aggttgagga gacaaggaag gacccctaaa aaggggtcac agctagagac aggacattga 56880
gggagagggc atcctagaag tccacactgc agaagatctg aggggaaatg ggaagagagg 56940
tctggagaga gcagtgtaga cagctcccct acagtggagt gtgtgcctgg gagtcggcat 57000
cccagctgca aggagaagcc ccaaacggta tggccatgtt tcttttatct ctgggtctcc 57060
ccaacacaca gtaggttctc aatcaaaatc tactgagttg gcatcagtta gatgtcctgt 57120
ttatggctga ggcaaagtct ggagatttcc cctacctctc aggccctcgc tgcaggcctc 57180
tgacactcca gggatagctg gcaagcccac aaggcctccc tgagggtcct tctctctcag 57240
aaaatatcag cacatgtgtc cagcagggcc tttgatggct tcacacaaga ggagagtcat 57300
gtgtgcattc ctggctctct ggacaagaaa taaatgttca ggcggagagg gagaacttgg 57360
ctgaagtgga ggagggaatt gaaatcactg aacaaaataa cagcaacacc aataacaacc 57420
atttattgat ctcctgttct gtagcagacg ctaggacaaa tgcagggcat ttgttgacat 57480
tgtctttcat ctcagtccag ttcagtccat ctccagttac ctggtgaggg aggggctgca 57540
aaccccaccc tacaatgagt taccctgctg cctgaggcca catacacagt agctccaagg 57600
ctgatgttcc tcaaccactg tgtgaagatt tatcattgaa gaaaggagag atggaggtag 57660
gaatagcaaa ggctaaagac aaagctaccc caagcagcag catctccttc catgacttca 57720
actccactga caccaggctg acctgggctt tccctttgcc tttcccacca tcacctttgc 57780
tagctggtgg gactttcagg ccaatgggtt acatgtttag aaacaaaatt gggcagtggg 57840
ctggggccag caaccacaga accttcctcc tcagccattg tcattaagta ggcagagatt 57900
tcctgacctt gtcagtagcc ctctattagt ccattttcat gctgccaata aaggcatacc 57960
caagactggg taatttatta agaaaatgag gtttaatgga ctcacagttc cacatggctg 58020
gggaggcctc acagtcatgg cagaaggcga gaggcacatc ttacgtgaca gcaggtaaga 58080
gaggaagaga gccaagtgaa aagggtttcc ccttataaaa tcatcagatc tcatgagact 58140
tattcactac catggaacag tatcagggaa acagccccca tgattcaatt atttcccact 58200
gattccctcc cacaacacat gggaattatg ggagctacaa ttcaagatga gatttgggtg 58260
gggacacagc caaaccatat caagcccctc agccaacatt ttcatggtgg cagctgctca 58320
tgaagtgtaa tctaaaagga cataaaaaac attcatacac acatacacac acacatacat 58380
acatatacac acacaaacat tcatcacaca ctcaaaaaat ctctcccatt ggctcacctc 58440
agcacctgaa attctgccaa tttaaggtcc tgtggagacc agagtagttg ttatgtttat 58500
caatatgtgt atactcactg cacttcaggg aagctggagt ttaaaggctg gaggactagg 58560
accaaagaaa gaacagttgt gctggtggag agaaaaggaa gtgagacaag ctgagccttg 58620
ccagagaaaa ggcagccagg atagtgcaga agagggaaag gtggaggctc ccgaagggat 58680
ggaagccaag catggaagag gaaaagagtc gggtcttttt ctgctctcct aagagttctg 58740
gtttggtatc gtggttgcga gtgtgagatc aaacaaccag gccgggagca gtggctcatg 58800
cctgtagtcc caccaggctg gtcacctgag gtcaggagtt caagtccagc ctggccaaca 58860
tggcgaaacc ccgtctctac tacaaataca aaaattagcc aggtatggtg gtgggcacct 58920
gtaatcccag ctactcggga agctgaggca ggagaattgc ttgaacccag gaagtggagg 58980
ttgcagtgag ccaagatcac accactgcac tccagcctgg gtgacaaggg caaaactcca 59040
tctcaaaaaa aagaaagaaa agaaatcaaa caaccaaggc ccaaatccca gtggtgtcac 59100
ttgctaatta cgtggcttag gaaattactc aatcctccta tctgcatcct taaaatggga 59160
agaatgacag tacacatctt gaagggtgat cttgaggctt cagtgaggta atccatgcaa 59220
ggaccttagc acagttccca gaattgaata aacacacagt aaatgtttaa tattattatt 59280
aatatttaac tgaagtctgc ggcctgtttc caccatcagc tcctccagcc atgagttgga 59340
gtctgccaag gattttagag ttcattgatt ctctggatgt gaatcattgt aaacagatag 59400
attggtgtct tctgtttgga gacaatatct ccccttcttc caatggcaga acatctggtg 59460
acttcccagg agataaaagg gtggagtaca ataaaggcca gaaacctggt tctccctgag 59520
ggagcagaat gagaggaata ggtcccggtg gcatatgctg ctttccttga ccttggcacc 59580
tgttccaagc tggcagagtg cagaggaggg agcactgggg acacagaaat tggtgtaact 59640
cctacagaca gcaatgtgct catagctcaa aattttaaac gcgtgtcccc ttgaccctaa 59700
attttggttt ctaggatttt ttttttaca gatatgcccc cacatacaaa atgatgtaaa 59760
tgcaaagtta ttcactgcag gatttgttat gacacagaga ctgggaaaaa aatctaaatg 59820
ttcacacttt actgaatata ttatggtcca tccatacaat ggaatattat gcaacagtgg 59880
aaaactgtga agaaatgtct ataaactgat tatgaaaaga tctccaagat ccattgttaa 59940
gtaaaacagc agggtccaga agaatgtaga aaaagtgaga aaaagtaata tgtattcaat 60000
atgcatagac tatatattca atatgtatag aataacacca aaagaaaact caagagatga 60060

taatattggt ctctgaagaa gggatccaag aagccaaaag acaagatagt cactgacttt 60120
tctttcatat attttgaatt ttaaaatgct gaagacaact aaattttgtt tacaagcacg 60180
ggacttggag tcagacagac ccaggttcaa aacccagatc cactggctat gtgatgttgg 60240
gcaggtcact tcagatcact ttaatctctt tgagctttgt ttcccatttg taaaacaagg 60300
atgagaataa tacctatatc acagggtggt tgtgagcatt cactgagatg gtatttttaa 60360
aaatatccta tgtggagaca ggcatggtgg ctcacaccta taatctcagt gactcaagag 60420
gctgaggcag gaggatcgct taagcccagg agctcgaggt tgcagtgagc caagatcaca 60480
ccactgcact ccaacatggg caacagagtg aggctgccta aaatagaaaa caaaacaaaa 60540
tggggaggta gctacagcaa agatgacttt taataaattt ttgatgaatc tgcatttatt 60600
cccttctata tgcccaggag agcattataa ggtaaggttc aggattgcca gtagatggaa 60660
taaagagaaa tgaaagtaaa tatctatctt acaaggagtg gagggtggca ggtccctcag 60720
tgcatgtgtg ctgaggaatt cgcatcactc acatgtgctg aagagtccat ccagctcacc 60780
gtttataatg ccagggtttg cgggggcag tccccatcac caggtcattg gatcctcact 60840
gaggacccta tgacatgaac aagctggaga ctcctggtgc cattttacag ataagctctc 60900
ccagggagct gcatgatggg cctaatgtta ttaatcgaac agacatgagt ggagaggcag 60960
taggtcagtg tgaagtgagc ataggttctg ggaagaaaac aagttctggt tggccattta 61020
actgtgctga gcctcagctc ctgcagccac aaaagggaga tcataacacc agctgcaaaa 61080
tgttgtgtga atcagagctt caggcactgt gaccaagaca cgggaaagct cagtcaatgg 61140
aagctatgat tatttgtgtg ggattatgat tggaggaagg cagtggggct gtgtgccccc 61200
aaaagtgcct taaccactca aaaacagaat ctctgccatg aaggagttca cagtctaata 61260
agagaaagag acagatcatc tctattcaat aaagttcccc ctaaataaaa atatggttta 61320
catcagttag aatgacgatc attaaaaagt caggaaataa caggtgctag agaggatgtg 61380
gagaaatagg aacactttta cactgttggt gggactgtaa actagttcaa ccattgtaga 61440
agacaatgtg gcgattcctc aagaatctag aactagaaat accatttgac ccagccatcc 61500
cattactggg tatataccca aaggattata aatcatgctg ctataaagac acatgcacac 61560
gtatgtttat tgcggcacta ttcacaatag cagactttga accaacccaa atgtccatca 61620
atgatagact ggattaagaa aatgtggcat atatacacca tggaatacta tgcagccata 61680
aaaaaggatg agttcatgtc ctttgcaggg acatggatga agctggaaac catcattctc 61740
agcaaactat cgcaaggaca gaaaaccaaa caccgcatat tctcactcat aggtgagaat 61800
tgaacaatga gaacacttgg atacaggaag gggaacatca cacaccgggg cctgtcatgg 61860
ggtggggagc ggggagggac agcattagga gatataccta atgtaaatga tgagttaatg 61920
ggtgcagcac accaacatgg cgcatgtata catatgtaac aaacctgcac gttgtgcagg 61980
tgtaccctag aacttaaagt ataataaaaa aaaaagaaaa gaatgttcaa aaaaaaatac 62040
ggtttacaca agtgtattcc tgtatatcat ggtctcatta taggtgtagt gccaggtgtt 62100
cccatcggcc atgattaaaa atatcaagag gtgggtgtca aggagtggaa gggtgggaag 62160
gccggaagca aagcagagaa gtttgcaaag atccctgcaa cgataaatga agatggggag 62220
gagtcaaatg gggcctccaa ggagcttcct ttgcgaggca ttggtgagga gggagtgcag 62280
tgagctgtgt acgagaggct gaagcaggga cctgggccta gggcaccaca gcaagcatct 62340
tagggagggg gctgacaact gcagccccag gtgtgctgat aacatcacat gctagtccta 62400
ctttcctact ttatttttct tgcgaacctt aattattcca gagactgagt caacaaacaa 62460
ccctgaatca taaagtcaaa aggccttcac aaaaggatgc tgatattagc acattgtgaa 62520
cttactctgt tgggaatgcg atctttcaga acaacccagg agcagggtac tattttcatc 62580
ccacccttct acagacgagg aagcagactc agaaagattc attcatgtct gaggtcacac 62640
agccagccag gggcgaagcc aggattcaag ccaggtgtgt ctgatgaaaa cactcctgct 62700
cttcctcact tcactgtagg ttttgaacat actttttttg ctgctgtgaa ggaaaataaa 62760
tgcagatgtg gcagcagtag tatatgaatc tatgcatgtg ataaaacgtc atagaattat 62820
gtacaaggca tactaaaaaa aaatgagtac ttgcaaaaac tggggaaatc cgaggaagat 62880
ctatgatcta gttaattgca ttgtgccagt gtttgttttc tggttttgat aatgcactgt 62940
aattagtcag atgtcacctt tagggcaagc tgggagatga gtctacagaa gctctctttt 63000
tgcaatttct tgtgagtcta tgcttttttc gaagtagaaa tctggaaaaa atacatgtag 63060
aaatctcctg ttgaaaatac aaacagggcc agagtaggac caaggagact caacagctcc 63120
tagtaagtaa agaacagcac cagggcatta ccagggcagt aggagccttc attccaaacg 63180
ttaagaatta caaaatgata cagctgcccc cttacttaca ggactcttgt atagctttat 63240
tttagggtaa cccaagtttt ccagattcac ctggctacag ggggggctca cctttacaga 63300
tatcactcat gtttcaccaa tctttccccc ccttgctatg acagagcttc cagcccaccc 63360
caaacctcac ccacccagtc actgctgggg ccctctggag gtgtctcaca caagcctact 63420
ggccagatgc tgtagtctgc tgctcacctg ctaccctgtc tgcaggtgcc ctctgtgccc 63480
agaaattcca gggtgttgcg tcagcagggc ccctgtgcca ggcacagagg tgactagggt 63540
ctgtgcccaa gaatggcctc tggatcttag caaaccccaa cccaattcca ctggactccc 63600
ctggcctgaa gcttctctgc attccacaca gaaagtgggt ggatgcccac tgaaggtcaa 63660
tcttgattgc ctggcaccaa agcagggcag catatgtcca acagagccct catgaaaact 63720
gctcccaaat cctccactct gaggtttaga gatgtgtgca aggttttgaa acacaaatgc 63780
agttacagta agagctaaca tttactgagc atttactatg tgccagacca agcaattcac 63840
atgggtaaac ttgtctaatt ctgatagata ggtaagctgc tgccacaaag agacccatca 63900
ataataaccc agtggcttaa agaagataga aatgtagttc tctctcacat aatctgaggg 63960
agtccccctg gtcagcagca gctttgcttc aggcagagtc cacggcccag gttctttcca 64020
tcttgtttct ctgccatccc ccaaaacgtc ctcagcctca tggtggcagc tgggtcattg 64080
ccatgcctgt ttgcagacca ggaggagaga ggcagcaggc acgaggcatg ctgatcgccc 64140

cacatcactg ggcctgggac tctcatgcac cactccactc acattctgct aatgagaaca 64200
ttctgcaggt gagaacttag ttacacaggc tcacctaact gtagggagtc tggggagatg 64260
gggatatgtg tgcccgagca attcttttac agtgaaagaa gagaaaatgt gttctggtgg 64320
accattgtcc ctccaccaca cttcctcaca ggtatgacca aagatgttca gaatggttaa 64380
atgcttgccc taggtaaaaa ctatctaatc tgataagtta attttaacca gtgaagtaga 64440
cctggacccc tttcagataa aatatgcgtt ttgtgtgttt taatagggat ccaatggaga 64500
tgcaaaactt aacccagaag catagctcta gcgggagata cagggtcggg ggtttggcag 64560
ggcttttga gtggcatcat agtccgggct ttagaacggg gagtcttgaa tgagtccagg 64620
tccttcatat gggaaaacca ctaaaaatct cagccctcag ctctgagaca gaatccaggg 64680
tgataatgga tgtggcacag ctagtgagct gcaagtggct gtcacatgta gggggttatt 64740
ttttatctaa ggggatctgc acatcccacc accaaagctg ccttttggga aggtaacagg 64800
tgaccctgtc caaggtctgg gctgaggatg aacaagtttc caaaggtgag ctgcaaggag 64860
cttgacagga gtgtgtgtgt gtatctgtgt gcatgtttgt gttcgtgtgc acacatttgt 64920
gtgcatgtgt gtgtatatgt gcaaatgcac acgagcagct tcagccagct gagcagccag 64980
tcatttattc atatggatga cttgattttt gattgagtta acaagtactt attaaacaca 65040
gttttgcaaa ggcctgcagt aaattggaag ctatacagga accctataag tttttacaac 65100
cctgcattct tcaaatattg gaataatata aaagataagt agggagtaag aggaaggaag 65160
agcaaacact agagaaggag gagccatggg aaagtgggtt agaagagaag gaggagggtt 65220
ggttgtcctt ctggtttcga agcaccagtg ggtccattca ccaatgaata caaaccaacc 65280
tattgtgcaa attattaaac tacatcatct gtcctagtct gagctaatat tcactacaat 65340
ggctcatgtt gctgagtgct tactaagctc caggcactat actaagtgtt ttatatattc 65400
tatctcattt aaccctgact accctgagga ctggcactat tattgtggct ctgttattag 65460
cctatttttat gggtgcagaa atgaaggcag acagatgtta agcaactgac tcaaggtcac 65520
acagctagta aactgcagac tcaggcctgt ctgattccta acctaaccac catgtctaac 65580
acttgttgcc cataggcctc agtctcctcg tttgtgaaat ggaaccacta catccagctt 65640
tgcttgccct atgggctgtt gcaaggatcc actgagaagt gattgccaag gtgcactgtg 65700
aacttacaaa acctaatgta aaagaatcaa accacattgc tccaagtttt gctaagatga 65760
atctaccttа ggatcatcta gagaataaaa cagttactag caaccaagat taaattaagc 65820
ctcctctgtt tggaaacaac tttagaggaa ggatgttgtt gatttgcctg gcagagaatg 65880
gttccaagcc taagagctca cagttgtttt tatcccaacc gccttatcag aatatttagg 65940
aatcaataat gtagtggcat gctctgagga ttctcaagaa gtcctatggc gagccccaca 66000
tgcagaaaaa ctaaaaaccc ctggtcaata atcaacacca acttgccagc cattgactgg 66060
gtcactgtgg aagtggatcc tccagcccca gtcaaacctt cagatgactg ctgcctcatg 66120
gagtccctga accaggaact gctcctgact ccttgagcca cagacacagt gagagattat 66180
aaatgactac tgtgtgaggc cactaagttg gaggggttgg taatttgtaa tacagcaata 66240
gataattcat acagcaccta tgataccttg tgacttaagt acaaggttat tgggtattaa 66300
ccaaaattct agttttcaag caagagaaac tattctggta catgtaagcc aaaggggaat 66360
tttcagggag ggcgtcaggg ctcatcaaat ccaagaaaag actggagact caagtgtagg 66420
atcctctggc aacagaactc cagctccagt tcagggagag gaacagccag gtttccacac 66480
ctccatggct ccagagagcc actaatcatt ccacacatct tgatttagtc cgttcagact 66540
gccataaaga ataccaaaga ctgggtggct caaacagcaa acatttggtt ctcacagttc 66600
tggaggatgg gaagtccaag atcaaggttc tgacagatat ggtggctggt gagggccctt 66660
ttcctggttc tcagaccacc atcttctcat tgtatgctca tgtggtaaga agcagagaga 66720
aaagaagcaa gttctcctgt gtctcttctt ataagggcac taatgccatt catgaaggct 66780
ccaccttcat gacctaatta cctcccaaag gccccacttc tgaatagcat cttattgagg 66840
gttaggattt taacaaatga attttggggg cacacaaaca ttcaatccat agcacaacct 66900
ccgtgtactc actgaggatt cagtgtctag agtgacagag acattgatca tgttccagcc 66960
ccctgactgc accaagggtg agagaaagca tctgcccctt ggtattattt ccctctgaga 67020
caaatcccac tagggaaaga tgattcttga aagcaagtca tggtgctttt agagaagggg 67080
atgggatgct ctgcagccaa catcaataaa tgcccagcca gtggtcatta gatggtgtta 67140
caaagaagaa ggccttgaat aatactgaac caggctacgt gtaggctgtg ggctttatag 67200
tcattaatcc tcacaataat cttaaaagga ggatgatatt atccccgtca tccagacaag 67260
gaggcagaac ctcagataca ttaagtaact tgccagaatc cacgtggaaa gtgatgaagc 67320
tggcttctaa gttaaagtct atggggttcc agagtcctta cttgtcccac ataaccaggc 67380
ttccaagaag ggcctcaagg gaatggaacc acattcttgc tttgatgaag tcaaataaat 67440
taaaaagagt ttattaaggg aaagagacag agactgaagt aaagggttca cctgatcttc 67500
tcccaaggaa gaatgtgcct gagtcatatc tgactggctt gacccagaaa gaagagggta 67560
gtcacaggca gaaaggaagg acaacacagg cacacagaga cgggcggtct ccagaactca 67620
aaacttccca agggtttaca ccctgtgtac tgaacatggt ccgcttctgc cacctagcca 67680
cagatggtct cctcagccac agcacaagaa gcccaactgt ggtgaaagcc tgtgggtggg 67740
tatgcagcaa gcacaagcca catgtaaagg ctttcctggt aaatttccaa gatgaccaat 67800
gccactgagt cctcttctct gtcatgtgcc ttcttcatat ttatccgaga ttcccaggga 67860
caggatggcc agctcctcct ttagattagg gagggtgggt ccttccccac ccccatctat 67920
actctctgcc ccactaaaga acttttctat aatcccatct tcaccatact cagcatttgc 67980
caaatattat tcttcatttt ctaattgtgt cttttctagt ttgtttggaa atgaaatctg 68040
gtttcacctg aaggttgaga gctaatatga agcatattcc tgcccttggg ctaatatctt 68100
tatgacatca tgacactaac cagctagaac tgacttagtt tttgttggcc agaagccata 68160
acatctctgc caacaagaaa ctagcatagg ctggattaaa gtcagcatga gaaagattac 68220

ctgaagataa gaaaataaat gaaggcccac catgcttcta agcacatagt aaatagtcaa 68280
atatgtgcag aggagatgca taaacatatc tgtgcaaggc tttcaaaagg atcaggaaga 68340
caggtctcac aaaaaaagca tttccaggct ttgtatttta cagaccaata tttttgtgtt 68400
ttgtttttta ttttggggag gaaaatccac acaggattat tatcttttta ctttaccaag 68460
tagagacatt ttaataaagc tttaccatcc tttcataaga taatagacct gttaacacaa 68520
gccaagtatg aagtataatc acagaataaa ggacagtctt tccagggaaa aatcatcggc 68580
acactggata cgggtctttg ttttacacta tatagtccct ctctggctag tttaagcaca 68640
aacaatatat tatggagccc agatagatag ttcacaaatc actggaaagg ctgtagggat 68700
atactccaag ttgaattcca tattaacacc ccaaactatg ccacgtaact taccactgag 68760
ggagctgctg ccacagccgc tgaccactct agctcctcaa aatgagcacc agctctgtgc 68820
cctgttcagc tccctccatt attccaaatt acccctccat attccaaatc aaagtcctgc 68880
atgagtccca gctgattggc tgaacctaag catatctaga tccccatctg ccaaggagtc 68940
tgggaaacgt agttttagtt ttcagcctct gcagtacagg gaggcacagg ggctggagaa 69000
ggcatggagt gaaccagtta gccactgttg gtgagctttt tgtcagacca cagcacttct 69060
aaaacatgtc aaggtctaag cctgggttac agaatcacat ttgggtgtac tggcatgaga 69120
gccatcctaa ggaatgtgtg cagtcacgct ttattgagaa gattctgaag gtcagtggtc 69180
ttacacaggc accttatcaa ggttctgaca gatatggtgt ctagtgaggg ccctcttcct 69240
ggttctcaga ccaccatctt ctcattgtgt gcgcccatgt gataaaaagc agacagaaag 69300
gaagcaagct ctcctgtgtc tcttcttata agggtgctaa tgccattcat gagggctcca 69360
ccttcatgac ctaattacct cctaaaggcc ccacttccta ataccatctt attgagggtt 69420
aggattttaa catatgaatt ttaggggcat agaaacattc aatccatagt acatcctcag 69480
tctactctgc tgccagaacc ttgatatggc acctactgag tgaatggctg ttcttaagaa 69540
gggaatttgc tgcctgaggc tacagcatga ccacactctg actgtagtag acatctgtca 69600
tatttgtggc ttctcatcaa cttttgagta gctttcccgt atctggggat attctcatgt 69660
aataagtctc atctccctaa tattgaagtc agagatcgag tcagagttca gagcgttcag 69720
gtgtctttgc agctaagatt cagggatgtg gtctgagctc tcacaaccca aggcctccac 69780
tagagatttg attcagaagt gagtagcata aagagcaggc agtgcacgga gcttctgttt 69840
ttgctggcat ggaaggcagc agaggcctta gctttcagaa gtggtggtga ggggccgggc 69900
acagtggctc acgcctgtat tcccagcact ttgggaggcc gacgggggcc aatcacgagg 69960
tcaagagagc aagaccatcc tggccaacat ggtgaaaccc cgtctctact aaaaatacaa 70020
aaagaaatta gccaggcgtg gtggcgggca cctgtagtcc cagctactca gaaggctgag 70080
gtagcagaat ggcgtgaacc cgggaggtgg agcttgcagt gagccgagat cgcaccactg 70140
cactccagcc tgggtgacag agcaagactc catctcaaaa aaaaaaaaaa aaaatgtggt 70200
ggtgaggtct ggttcctgcc tcagaagtag catcagtggt ggtggcaaga gtggctgcaa 70260
taaagtcaag ttcctggtgt ccagtgctca gtagcagcag ccatagtaat accagtttcc 70320
ctccatgatc tagccctaca gcacagttta gggcattgtt cttggaaact ttaccccaaa 70380
tctatttctc caccctccaa atgattgttt gtccttcagt ttcctttatt aaatcccatc 70440
tgcctcaact agccagagtg aatcctgttg tcagcaacca acaacccact tgatgtgcta 70500
gataagccag gaacactgac cctgaatcta ctgcctctac accaggctgc agtgtgaacc 70560
atttctgcaa cagagagtat cggcctgaac ctcatctccc attgccttct tgagtcaggt 70620
acaaagaagg atgggaggaa agcgtacttc cttctgactc ccagctttcc aggagctcct 70680
acagaacaag aatgtttctt cttcactgga ttgttatcac caacaatttg tgcagggctt 70740
agcacagagt aggtattcag caaatgtttg acgaattaat aaataagtga atggtaaaaa 70800
cactataaag ttatacccag ctggattcct aacccagatc tgtgctgtcc attaacagta 70860
cccactagcc acacatggcc actaaacaac tgaaatgtgg ctagtgcaat tgaggaactg 70920
aatttttatt ttatttcagt gaactaaaat ttaaaaactg atacctaatc ccatttttgg 70980
aaaacttttg gctcatttgt gtatgtaaat gtacatttta gctataaatt gtataaaagc 71040
tgaatacaga tgaaatcttt ccaatgaaaa attagcatac aaattgagat gtggtgtaat 71100
tgcaaagtat acaccagatt ccaaataata taaaaaagaa tgtaaaatat actattaatg 71160
ttatattgat tacatgtgga aataatattc tgaatatatt aggttaaatg aaacattaaa 71220
gttgacttca cctatttcta tttacaattt ttgatgtgac tactagaaag tgtaaaatta 71280
tatatgtggc tttcattgaa tttctgttag cacagatctg aacattagca taaatattgc 71340
tcagtggtca aaggggatgc caaggacaca catttcctct gagcactaga ggctccaacc 71400
ccacagacct aggcccaacc ttacccttttc atttccccat cgcctttccc cagactccaa 71460
atccagcagg aggaagtgta gacgtgggcc tctgcaacat gtgaaaaagc agaaatcaca 71520
aacgcagtgt ttttcagcag gtgatttagg caactcttca tcagggaaag ggctggaagt 71580
aaggccacaa gcagtgatca attgtttgct atttgaaggc aattcaaaaa gaaaaaaaaa 71640
tccccaagtg aacgttcctt gggtgaccag tgtgccacct ctgcataagt ctatgaaatc 71700
aaaggccctg ggacagcctc taatatggta gcttcattcc aaggaagagt ttaaagcaca 71760
aagaagagct gttctagtta gtatgagtca gggctaaatg ttaagtctcc tgatgctcac 71820
tggggcacac catctctcag cattaggtgc caatacataa catgccaaat gggtttgatg 71880
tgagaaagga agtgtctgcc ttataggaat cacttggcct gcatctaccc caggatttcc 71940
aagcctccct ttgccagcac tggaaacgca ttttgagaaa ttggagttgg ggccagaaag 72000
cattctattc ccatcactgg aatctgtgtg gcttctattt gcaactccag tagatgtgaa 72060
actcttaaaa tgatttttc cagggtagga aggaacacaa tgatgtcttt ggctaaacag 72120
tgccgggcta ctgcacagtt caatcctgag ctaagtgaag ggggaaaagt ccggggcact 72180
aatctggcgt gactggcagc acccgatggg gtaaggagga cagatgagaa gggtaggaga 72240
ggactggtgg ggatagggga acagggaagg gatggaaagg cctgcttctg aaggcttgca 72300

tctaacagaa aaggaaggga acctccctga cttaccatgc gggacccagg taattttcat 72360
actggaagca caatctacaa aatgcttccc tccaacccat ccccataggt acaattttac 72420
caaataaaat cattcatact cacatccaaa tttgccaatc tgagcaaaat atagttagta 72480
acaaaggaag gcaattttca tattttatca ttcatcatag aaaaaaagct ttaatatttt 72540
ttaattaaat acagaagaaa attgtgttgc cagagagatt gtttgcctgc ctttgaacaa 72600
attaacaaca cctgtttgca aacaaaagaa tttccagaat ggagtcaaac cctttattct 72660
ctgttcagga cccagcccat tcatgtcttt tgtatacagt atcaaacaca tagtaggtgc 72720
tgaataagta tctgctgact gaatggggtg cctcttttat ccctatcctt tatttcccaa 72780
ccctaaactg gatcttgatc catggggaaa atatccccac ccatccattc ctagagtagc 72840
cctgtctctt tcaacagtct ttgatacata acattggttt agagacatat gcctgaaggg 72900
aaaagaggga gggtttcagg cagagaaaga aacacacaaa gacagggcac agagactagg 72960
cagaaacaaa aagatctaag acagagagag agagtaactg aaacacaggt gcagagcggg 73020
aacaactgtg ggagacaggg acagaaaaac caagtcagag aaacttaaaa cgcacaccat 73080
tggagataaa gagataaaag ggctgggcca gaatgatcat cttgaagttt ctactcagct 73140
ttaatgtttt ctgatagaga aaatggcaga gagagaggaa gacacggcct aagcaggagg 73200
ataaagagac aaaggaagtt agtagaggca gaggcagcca gccaggcgtg cctagccggg 73260
aagcctggtc ctaccccggc ctcacaccca cggggatggg ctcccatgcc cactttcggc 73320
tcctaccttа agtccagcca ccctcttccc ctacccgccc ctaaagatct ccaaaccact 73380
cggcaaatca aatcctctct ccccaacatc ctccgtgaag cattctcgct gctccagccc 73440
gcactcagct cttcccctct caactcctaa agccacaccc acctccccta accacagggc 73500
agggctgttt tcgagtttgc ccttggctcc tatgagcaca tcttgactcc tgcaaaagaa 73560
ctgtgtgctt gtcagggctc cagaccctac ctcctatatt ccagtattct tcatgacacc 73620
agcccaatgc ccggtcttcc taagtgctca gtgaatactt tagggcctga ccggccctaa 73680
agtgcacgcg gggaccgtgg ccgtcccctg gtcagtttgg caggctggcc acgctgaggc 73740
catctcctgg gctcctgcgc cctctgccgg ccaggagggg acccgcacgc gggacagctc 73800
gcggccggaa gggcgcgcct gctgctggga ggctggcgag gacgcgggcg gccctggcac 73860
cgtccgaggg ttctgggaag ggtggtgggc acagccagga acagctgctg tgttcctctt 73920
aggcgtagga gaacaacccc tctcgccccт acacctcctc cggccctgcc cgctgggcgc 73980
tcagagcttc tcgtccagct ccaggccctg gttatcccgg gcgcccccgc gctcggggcc 74040
tgggctgccg ccgtgtgtcc cactcaggta gttctggatg gcggaggcgc agtctagccg 74100
ctccatgacg gtcatgaggt agtgcagctc ctgcaggctg ccgttctgct cctcaaacaa 74160
ctccaggatg gccgctgcgg ggctgcgctg gcaggacagg aacctggccc gaggtagggg 74220
aggaagagaa gggtgtagga gcagggaggg gctccccccc tgctgcaggc tccctgggct 74280
gcgcagcgca aggtccgtcc cttccccatc ctgtagcttt tgtccttgtc ctgctcttgc 74340
ctgccttcca gggcacagga ggtgggaagc cccagggctt tgaaacttga gattgtcctg 74400
gcttggaggc caactctgac ccctactcct ctctaggctt cagtttcctc ttattaagat 74460
gagggcttag acaagaggac ctctaagttt gctacagttc tgatgttctg taattgcctt 74520
ctctacctcc cccactccaa atacacccct agcctccccc tagcctccta actccctcct 74580
tcctccctct ctcctaggcc acaacatcct gctcactact aaggaaacag ttgctgtaaa 74640
ccatggcttt ttatcacgac tctcccgtcc actaaaacct tccagagtct ctcacctcct 74700
aaccagccca cgctccatga gcctttctgg ctcatccagc acctggcctt gccctgtctt 74760
tatgctttct ctcctttctc ccatcctgaa cccccttagc tcaggcctct ctctttctcg 74820
ccttgcacac actacaccca cagccacctc tgctactccc caaaacaaaa tggctgatct 74880
cttccccatc acttcctccc tgaagccctt tctagttcac ccctcccagg tggaagagaa 74940
cattctgcat ccctcagttc agacttctgg tcataacgcc cgcagttcat tattattctt 75000
gcttcagctg ttttctgtct ctcttcaatg tgttatacaa tactggattc ttacaggaag 75060
gcacaaggaa cacttgcctt tatttttcaa gctctctgaa ccctttacta gtgtgtgcgc 75120
tcctaggcgc cgggaccatg cctcattcat cttgtatcat agtgcttagc acagtttcca 75180
gggcataata ggtacttgat aaatgtttaa atgaatgatt taaaaatcca ccctgtagtt 75240
tgcagaccag cctggccaac ctggtgaaac cccgtctgta ctaaaaataa aaaattagct 75300
ggacatggtg gcgtgtgcct gtaatcccag ctactcggga ggctgaggca ggagaattac 75360
ttgaacccgg gagatggagg ttgcagtgag ccaagattgc gccattgcac tccagcctgg 75420
gcgacagagc aagactccgt ctcaaataat gataataata ataaataaaa atccaccctg 75480
ttttcagggt ccagctctag ccccatcacc aggataaagt cttccctgac cgctgcactc 75540
atagtgtagt ttctggagct tagctcagta ttctcctgct ttctgagttc cttgacaggg 75600
atcatgactg cactgtcacc attattgata acatttattg aattaacaag tgtcaggcac 75660
ccagctacat gctttacaca cattatccta taatctgtct tgctcctcct cagggcatag 75720
catggcaagc actcaacatg taccaaataa cttccatgtt aatggattca ctgttaaatg 75780
ttaattgagc acctactatg caccaggcat cattctaggt actgatgata cagtgattaa 75840
tagagctgcc cttttatggg aaatagggtg gacagtagcc attctctgac ttttaagtca 75900
ctcccttgcc tgtgatccag tctccagagt gtcctgagga accccattcc agcccaccct 75960
cctctaccat ccacagacct caccccctctt cctaccggat cttcatgccg caaagcccca 76020
ggtgggaggc cagtctgcgc cagtcattgc cggtgatgct gtttggctcc aataacatcc 76080
gcagctgctc aaagagctct gggggcagcc ttaggcaggg aaaagggtgt tcttggaaga 76140
aagggacaaa cagacccact ctggttctcc catatgcacc ctaaatgctg tagtcaccct 76200
gtgggtgcca gggtaggaac ccaacatccc ccaggcagca gcccaagcaa cccccgtctc 76260
acctattgca tgggggcggc tgggaaacag gtggtggcgc tgcccaggat tcctcctctg 76320
atgcctggaa tctgaggatt tccatatact tggtctccaa gccctgagtc aacacagggc 76380

agggaacaca cttaggggtc acaagccatc cccctgagta agaagctgga gtcctacctc 76440
cattcctcat gtctctcctt cagtctgtca ctcagagcca ccttaccagg agatacaacc 76500
ctgctccacc cagcaccctc tacccactgt ctccctgtga cttcagaacc gcaccttcag 76560
ccttatgttt gcccctgagc tctttgggaa ctgggacatg aagaccagag tgcagcctga 76620
gccaccaggg gaagtcctgg gtggggccgt ggagcagtgg gaggtcatcc aaccatagag 76680
acactgatct cagccatatg tgtaccttcc tccattccaa ccttcccttc ctcttctcca 76740
agtgacaaca gggtatctgc ctgccctcca ctaaggtgcc actatggttc cccaaagact 76800
ctcaactccg atttcttcgc atcttccctt ggtgcagcag gagaggagag atacctaact 76860
cccagcctgc ctactcaaga ccctcttcct ggtcacttcc cacactgaaa atacaaaaca 76920
tcatctctca aatcccacac tgaagatacc aaacatcatc tctcaaatgt agacaatcag 76980
cctagaaaga aaccatatca acttgatgcc ccagttctct gagttgggag aaggggttaa 77040
actagggttt ggttctttta gcttcctgct ggattcatcc accgatagac aaggagagtc 77100
agggatgagg gtaacttgga gcccagatga tctcagcccc tcaaagagct ggtatggggg 77160
ctctatggaa agtgccatct ttacctatgt gattaagacc atagttactg ggcaccagac 77220
cctgtgccca ctttgcctag gatttccccc aggccctgcc cttcctctgc ccctcagctc 77280
caactcacat cctggaaggt gtgcatggtg acaatgatct cattggttag tgctgaacag 77340
tcctcattct catcggctat aaagagaagg tgacagcgtg gccagtgagt gaggaaacgg 77400
cctggggtaa gagcaggaga aggtaaggga ctctatagta agacttggga aatctgagga 77460
agctggggtc caacactcca tttttctctc tgcaaagatc tgtgtggctc ctggcctttc 77520
agggaaggtc tgtgtgcatg gctgcatggg ggtctgcaga gctccagggt tactgggagg 77580
gaaggagagg agacaggatg ggaaaagaga ggggaggagg tacacacagg gctcccggac 77640
tacctgcttt tctccggaag cagaaggagc ggaaggggca ctttccatgc cagatgtgga 77700
gatggggaac cagctggcaa ctgctgtcat ccacattctc ccaacctggt gagtaggcag 77760
acagcagagg gcctcagaga gtggggcctt aaacaagtat tgaagggggc tgtggggagg 77820
catgaggaca gaacaaaggc aggagggtct caagggaatg ggaatcccca gagcctgggc 77880
tgggacccca agagggccct tgcactataa aagccttcca tcctttcctg cttctgtggg 77940
gtataacccc tctccttccc acctgccacc tggcatcacc ctgtccaagg agtgagtggc 78000
aagggctcag tagacagcag agtggtcaaa gccctggggg ctccatgagg ctactgctgg 78060
cccagaggtc acaaacagac ttggggcctg gtgtggtggc tcacacctat aatcccaaca 78120
ctttcagagg ccgagacggg tagattactt gaggtcaggg gttcgagacc agcctggaca 78180
acatgatgaa accccgtctc taccaaaaat acaaaaaaat tagccaggca tggtggtggg 78240
cacctgtaat tgcagctact caggagactg aggcaggaga ataacttgaa cccaggaggc 78300
ggaggttgct gtgagccaag atcaagccac tgcactccgg cctgggcaac agagcgaaac 78360
tccatctcgg gaaaaaaaaa gagagagaga cttgggatcc ccagatctcc agatgtccag 78420
gggaggccca gaacccttca ttcctgtggg gctcccgatc atcctatccc acaggccact 78480
gcctccctca ccctctgaga tgtacgtgag cttcaggcac tggtcgcccc tagccccatt 78540
gaagtcgaag agctggcagg gcccacgcag gcgcccacca tggggctgct cgttggtcag 78600
tgcccactgc agggcgcagg gcgtgttgtt gaggaagtag atacgcagtt gcagatggga 78660
ctgtcctggc accagcggtg agcagaatac ggccagctgc agccatttgc gggcttcgcg 78720
ccccacaggt gcctccagca cacaggtgta gaggctgcag agggagccag tggcaggcac 78780
taatgtgcag ggaaggctaa gacaccaaca cactgccacc agcctcctgc cacctgaggg 78840
gcctctgtgg ggccttcaag gaggttcaga gaacactcga ggggagcact tagggaggaa 78900
ctggtaggtt ggggatgaaa agtgagcatg tcacagtgac tggtgactga atggggagga 78960
gagctggcag gggagaggag gaaagtgggc tcagggtgac catgcttggg agggcacccg 79020
cacatggccc tattcctgtc aatgggtggc aaggaggctg ggaggcagag gacctaggac 79080
tctagaaaga caaagagaag aaggacagag atggaatgga gtcttagaga actggtgcta 79140
agcctgggga cagtcctgaa aggggcacag tgtagagaga gataatttga aagacagaga 79200
gagatgggaa agacaggtcc ctcttagatg gagagatggt gctgagtcag acacttccag 79260
acagacagag agacagcaat gggatttgca gtcatggaca tgattgatgt gagaaaaact 79320
gctacaaaca ttaggacaga ggggccagaa agagacacca ggggataaag gatttgcaga 79380
ccatcttcta tacagagaga tgaagataag gcagacagag aaagtgggca ggaaagacag 79440
tcctcagaga gatgggtgtg ggaagacagg ccaatggcat gtgcctacct gaagtgggag 79500
aggtggatgc gacactcatc ccgggaggcg tgggcccccg gccgccccag gggcctccat 79560
accttggcat ccagcagggt agtgttgctg ctgtaggtgc gagcatggct gggctgctcg 79620
gcacagtgtt tgaacgtgag agtgcaaggc ttcaggaagg aggccccatg ggggccacat 79680
gccaccacag ggcttaccag cccctgggct tgggacagcg atggggcgtc cgacaggtcc 79740
cacaccagga tcaaagacac ccgctcctgg cggcccacag ccacagcacc tggcagggag 79800
agggagagct gagatgggcc tggtaggcag gcacacccct gcccctgaaa gaggccaggc 79860
cagagagaaa ggaggtgggg caggagccca ggagagaccc ccagcagggc acacagggaa 79920
gtggtatgaa caagagtaag acgactgtgg agctgacttg tagtgtaacc ctaagcaaga 79980
cacttccctt tccacccagg ctgctgctag cccatagtgt gccttgtgtg aatttgcaaa 80040
tggtgctctt ccctcccttt actagagaat tgtcacagca tactgattca ttagaacaag 80100
gcactttact tccacctgcc aggaagttgt cccaaaagat atgtaatatg tccatccctg 80160
aagtcaataa agctatactc aaaatataaa caattatcag aagtaaaagg tgtctatgaa 80220
cattgctccc tcagatgtgg tgacctaatg tacagtctga ccaactgtat gcggagatga 80280
gagccaggag ctgttacctg gtgggatgag caaggagatg cctgtatcct ggagcatcag 80340
gcaaccgccg cggtgatcca cctctcgagc cgaaaacacc aacagtttgt gcatcaactg 80400
gcggaccatg gtctggcctt gagtgggtgt gtgtagctcc tggtagaagg caaccatctc 80460

tggcagtgtg gctggcaggt gctgccttga gacctcattt tctagttggg gggtaggctg 80520
ggacactggt tcctcttgac cattcagtgt ccagcaggcc cccagcagcc ttctagggca 80580
gtgccatcga aggcattggg ccagaaggag gacacttgcc actgggaccc ccaccagcag 80640
taggaactgg gagggttgga atgaactctc ctgggggcac attcgcctgg ttactcaatg 80700
ccgctggctc tccttcaccc ctgtgccagc caaagccaaa ggcctggtgg ggaagaaggg 80760
gtcagtgtca gggtaagccc ttttaagttg tggaggtcaa ggcttggctt acacatagct 80820
gcaagttgtc ttcattccag cgcacactgc acactttagt cacaccaatt cttttaacct 80880
gtctctctta ctcgagaacc taccctggct ccccgtgacc taatacatca aggtaaactg 80940
ttctgaagca gagtgagctt gggtttacag ttagagaaca tgagttcaaa tgtcaccttg 81000
gtcactgtgg ctgggtaaac ttatcatatt gatgtaaggc aggagagccc caaaattggg 81060
gcttagtttg ggagggtttg tggcttcacc taggcaagaa ttcaagggtg agccagtggt 81120
gtcagacagc aactttcact aaagtggcag agtatagcag cagcagaggt atgctcctta 81180
cagagcagag ctaaccctag gcagtgtgcc cagggtagca gctctggggc atttctgcca 81240
tcatatttat gtccactttt aattacatgc agtaaggggt gggttattca gaaatttcta 81300
gaaaaaggag tggtagcttc gggtcactgc catggaaagg ggcagtaact tccaggcatc 81360
gccatggcag tggtaaactg tcatggcact ggtgggcatg tcttatggag aggtgctttt 81420
ggtgcctttt ccctgtttca gccagttttc tatctggcct ggaatcaaat cccacctcct 81480
gcctcaatac tgcttaatgt acctcagttt cctcatctgt ccaaatatct accttgatct 81540
acaagtgctg atacaaaaaa atctataagt ggaaaaagca agtcgcagag agataaaata 81600
ttctgagctc attaatgtga aaaacaaaac tgcatataaa tagatacata tttatgggtg 81660
catatatgga aatgtaaagg tatagagaaa ggtctggagc agtggtgtac aataaaaatg 81720
taatgtgaac tacacatgta attttaaatt tcctgatggc cacattaaaa agaacaggag 81780
aaattaatac attttattta acccaatata ttcaaaatgt tatttcaaca ggtaatcgat 81840
ataaaattat gagatatttt tactttcttc cttcataccc agtctttgaa atccatgtgt 81900
aatttatatg aacagaacag ctcacttggg actggctgta tttcaagtgc ccagtagcca 81960
cgtgtactaa tgaatccggt cttagactgt gcaggtctgg aaggacacac ccccaaacta 82020
ttcccatgag tcacaacaaa ttgagaaggt ggaaggtgtg aataaaaact ttgtattttt 82080
ttaaatcctt ttctctgtac tttgaatttt tcacatcaag catgtagttt gtattaactt 82140
tgtaattctt ttctgaagct attaaaagtg gggaaaaagt gcctctttgt gtaatggtga 82200
ggatggcata aggtcatgtg aaaagtattt gtagatgaga aagcactgtc caaatgtatg 82260
tgtttcttta tgcccctcct tctgccagaa aggcctgaag gtagctcaca gggataggca 82320
acatacaaca agaacaacaa aagctaaaag tggaagcaaa aaaaaaaaaa aatgaagaag 82380
acaaaacaca aagatgcagc cctacagtga agctggaatg aggcagggca aaagcataca 82440
ctcacctcct gctcacctgg ctacccagcc aggccacagg ctgagacttc ccagtagctc 82500
ttcctgaggc cctccagaac ccacctccgc ctcctcctac ttcccctctt ccagccccta 82560
caatttccaa cacgcctgcc ctgtagcctg cccaggctcc ccacacctgc ttaattctag 82620
cctctggctt ttgctcatgc tgttttctgt ttctccactc acttgctctc cccacttgtt 82680
tcctctccct acgtggatcc tcccattcaa tagtgcctcc cgctggtgca ccggcctttg 82740
acagcctcca gctcgcgaaa tctctctcca cagccatccc accatactga gtcactcttg 82800
attatgtgct gtcatgtgtg attttcccac tcaaatgaac attttctaag caccggctgt 82860
gtatcggaca ctgtgggaag ttcaatcctg ccaaagatga cgtcttattc cgctctcaag 82920
gagcttctgc aggaatggaa ttcattggct tggtagctga gttctgtgag gcacaacgtc 82980
ctccttcaga gccctgggag gcccctctgg ttgactcact agaggctgca ctggaagagc 83040
ttccagtatc cagtcctccc cacgcccttc acttgcacta cccacctgga actgaggctt 83100
ggcccacctt cttccttcca acctcaggac ccatgaaaac tgaagcccct tcctagtgcc 83160
tcttagacca gggcagaacc tccactgtat cctcaggatt gaagactggg gcagtacctg 83220
tttctcccat gtcctcactg aaagtgtgaa taagaagcgg gggttggcat tgttctcttt 83280
gcctaaagag ccaacccagc agacaatgca ccagcctttt tcaaccaggc atcctggagg 83340
gcacacaggt gaatcagtga attggcagtg tcccaaagct gatgggaagg gggttggagc 83400
agcaagctac cgttgatgtc ccatcatttc ttttggttct ttcacattag taataattat 83460
aattccaact gtaataacaa tagctaacat tcgcagagct ttactcaatg ccactgtgtt 83520
aaagcactct ccatggcttg tctcatctca tcctcacagc agccttagga gcgaggtgtt 83580
atttttatct ccatttcaca gataaggaat ccgagctttc tccccacagt gaagatggat 83640
agggaattac taaacaactg aagacaggca ggaaggagga gcaaagacga acaaggactt 83700
ccagagatac ccccttttctc tctccacccc ttcttttccc caagtatctt cctttccttc 83760
tctagaagaa ataaagttgg aagagaaaga agcaaaaatg aagtaaagac aaatagaagg 83820
acctaaattt acatcctcag ttatgtggta atacccaccc cactacacca cacccccacc 83880
taccaaggta ccagtggcag gggatggaat tgctaaaggg atgaaaggag gggccccagc 83940
tcgcttacac agcagtaacc ttcctggggc caccaaagac cagagtccag atccccagtg 84000
aggtgcacct cactgggtgg tgcagtagag tcccctggct caacctccga ccctggagaa 84060
gttggcatgc accactccca aagccccact gggcctctcc cagggtgact gctcttccag 84120
gctgccctgg ccctcactgc atcctccctc tggctccaga atggggaaag gtccggagtc 84180
ttgctgaatg gcaactatag cactgcagcc attcgagtgt gacttggggc atcccaaccc 84240
catgcctgga ctcctcatta cccactcctc cagtctgtct tgctccagac cccagatcac 84300
cctgggtagc gggtccccga aacgagagtc ctttagaatg ctgccatcac ctgtccctag 84360
gcagttgcat cctccagcac aaagatccaa actcctgctg caaagttctg ctcataccct 84420
ttaagaaaac tctcaacctt tcctccacct cactggttct ccctgtgcct ccccaacacc 84480
tgatagatgt ccagttactg cagaacataa caagtactgg gatggatggt ccaaacccaa 84540

gtcatgaatg gcatttgtta gtatagtaga catttccgca ggacacagaa tcatcccagt 84600
ggtcctcata cccattggcc aagtcccatt ttcctccccc cctccagcag agggtcccta 84660
cactccagca ggcaggctaa gctggcctgg ctcctccccc gaagctccag gtaaccccat 84720
cacaatgccc atcccctctc cagctgcccc aaggggggtgc tcaacttacc gtctaggagc 84780
tcttagaggc tgctggctgg tccagttcct tctccgagaa acaagggtca gccagattca 84840
gtcggcaggc cagcagacaa gtggaggtgg gcggggaatc caggcaggag tggcctggca 84900
tttcctggca gagccctgcc tcccagctgt ctaaagaggg gtgagggaga gtgtccctgt 84960
ctattggcaa agtccagccc aggtaaggga ttagctgagg atcccagaag tcagtgaact 85020
ttccagtcta ggtctggaag gaaggaggga ggcagggaga caacctgggt gtaggtgctg 85080
caccttgaaa cccctcctta cagtgccctc tgctggtgag tggctgtccc cagccagagg 85140
ctattattaa aatagcagat aggaggagga gggaaccttc atctgagttt cttaaactat 85200
aatgtgcaca acagtcacct gggagatctt gttaaaatgc aggctctgat tctgtaggtc 85260
tagtatgggg cctgagattc tgcagctcaa agaagctccc agctgatgcc aatgcaaccg 85320
gtccaaggag cttagagagc atctagttcc acccgctccc cacacagaga agacagtgga 85380
gccactgaga cggttaatga ctcaccagtt gctggtggac ctgagatgta cccatatttt 85440
tccttacaca aggtgctttc tacttccccc acccaaagtt ggcagagaca ctgccggttg 85500
ggagacaact gaactttggg gccatttgcc attctgagtt cttaaaactc tgcctaggag 85560
cggtggcacc acaagaatga aaactccttg tggaactttt cccatgtttt cggctgtctc 85620
ctcagctcct ggtacagcct gatagataga aggtgttcaa taaacatgtc ttgaatgaat 85680
gagtgaagca gttgagaggg aaaaggatgc attttggctc caactggcca acactgagcc 85740
caggtgagcc acacgttggg tatgtaatat tgggcaagct acttaactcc tctgaacctc 85800
aattcccttg tctgtcaaat gcagttaaga atatctacct tgtgtgagat aataattgtc 85860
attattgagc taataaatgt caaatgccca ccacagaatg ggtggtcaat agatggtaac 85920
cgttgtcacc agggtctggc ctcctgcagt tgaggaggca tggtgaacgc ccccccaggc 85980
ccctagttat catctcccat agaaaataag taacttcctc tgcttttgtc tcagttaata 86040
attctctagc ctcttgtctc tgactgcaat gccctcccct ctgcttcctt ccctggtgga 86100
ggtgagaggg tggaataaac ctcccagggg agcccagtac cccaaagtgc agagatggta 86160
gagagcgggc aacctgggaa gcagacctca tgcctaaaga caagccagga aggggtgctc 86220
agaactttga tagggaatga aaggagtggg gtaggggtgt ttgtctttgt tgaacaaagc 86280
tctgtctgag tcacacagga ggctggactt tgccaacaga cagggacact ctcccctacc 86340
cctctttagg gcggctggga ggcaggactt tctgccagga agcgccaggt cactcctcct 86400
tgactcccca cccacctcca cttgtcagct gccttctcct ctgagtcata aagtcctagg 86460
ggtttgtgaa agatctgtca agctagggtt ctaagccagg aaggtcatgc caaccaggag 86520
gctataacca ggggctgtgt tcatggatta tgaactcact tcccaagcta gttcttgcca 86580
ctcttgggga caatcccaat tataaggagg ctctgaagaa atgtgaaggc tcctaccact 86640
cactcccatg gccacagagc tggttcatgg gatgcaaaga ccacaggcat caacagcatt 86700
ataactgggg gctgagctgt cacaggaggg ccagtgtcaa accctcacca caagccctca 86760
aacattccat caaggggtag cctccagagg ccaggcacca aggagggtct ggcagaccag 86820
aggggctcct cctgagagga actctttggg gccatgaaac agcaacttgg acttcccagc 86880
cagtgtcacc acccttctca tctgagaaag gcagatcagc agggagcacc actccaccct 86940
cctcccagcc ccaccctcct cccagcccca ccctcctctg ccttccacac atcatatgtc 87000
atcaggcccc ccgcctggga ggtgtgctgc cagaggtaag gggagcacag gcctaggaac 87060
caggaggcac tgggagaggc aggtgtcagg agaaaagagg atgggggcag ggaggggcag 87120
ggaggggggcc tccaccactg gacagaaatg tagaaaaaca ggaaggcaga agatgagcaa 87180
acggacagtc aggagcacag aaagacaagt agaaatatgc acaggtgggc atgctgctca 87240
gctctgtccc agaacctcca ggaccagtgt ccctgaccct tgacagaaaa ggatggatta 87300
gggccaggca cagtggctca tgcctgtaat cccagcactt tgggaggcca aggcgggtgg 87360
atcacctgag gtcaggagtt cgagaccagc ctgaccaaca tggcaaaacc ccatctctac 87420
taaaaataca aaattagccg ggcatggtgg cgcacgcctg taatcccagc tactagggag 87480
gctgagacag gagaatcact tgaactaggg aggcagaggt tgcagtgagc cgagattgca 87540
ccactgcact ccagcctgga caacaagagt gaaactctgt atgaaaagaa aaaaaaaaaa 87600
aggatggatt agatagtcag tccagaatac tgaaaataat cagattgttt tctctccttc 87660
aaatctggtt aatcatgggg ggaggctgaa atatcatgaa caaatgagaa gaatgatatt 87720
tgtggggcct tggtggggcc ttggctggag gagggtctgt acattgtccc acatgcaaat 87780
gacatgcaaa gcaacatgcc accttggcag ctttttaatc aaagaccagg cagttgtttc 87840
cttgaaaagt caggccacaa gaaacctgga tgcttgtgct tacatcctga cactctggga 87900
atggaaagat ggagcaggaa gctcataccc catggctcca ggggtagaag agagctaaaa 87960
gttcagaaaa aggaatccac ggtgtcaaca ggccaagttt gaatttgggc aggagatcag 88020
cctgggtggg ccccatgagt gtgccagtct gatatggtga gataagcctg ggacagatgt 88080
gctgccgcat tcgtgactag aaaagagtcc ccaggaattt ctggctcctg ccttcagatt 88140
gtgaactttc caggttggta gatcagctta ggtagaacag ttctcggtga gggccagcta 88200
catacctggc taagcgctgc ccactgcaga aaagctcatc acccgggacc tgatctccag 88260
gactcagaag cacttggagg aaggcctatt cacttagaag cagttaccag tgctgggcag 88320
tgtcctccaa gtgccagagg agtgctgtgg agaaaagaag tccatggaag ccaggagatg 88380
ggcaaggtgt ggcctggggt tggagagagc tcagaggtac aggactggag ctgggccagg 88440
gagagaggaa ggacctccgt gagtagacct tctctgaggg gctcaggcca ggaaatgagt 88500
caggttagga ggcagagaca gacgaggagc cgcaggggaa ggctcatcac tagcatgttc 88560
tctgcctccc cagattttgc ctcttcaagg tgaatgcggc ttcaaggggc tatctttgtg 88620

ctcctgcccc acctggggcc catcctggtc tggctgttca ctcgtgatca catgtctggt 88680
tggtgtgagg gcccgaggat gctgtcctgg tgcccattct acaaagtctt attgcttgta 88740
cagacagcca tctactctgt cgtggggtga gtacttgttt ctcacacatg gccctggtac 88800
ccaatggggt gggaacaagt cctctatatc tgaattactc ccatatattg gcctccaaag 88860
gtaggcgctt tgtcttgcct ctcaccacca tagtgggtcc tccagaaagt aagaaaccct 88920
ctatgcctgc ctggggttcc agttagccct tcttccaccc tctctaagtc tccccagccc 88980
ctcctccacc tcaccatgcc cagctcctcc caccaactcc ctccctggcc cttacatgat 89040
gcctaaaccc atctgccccc atttcagccc acaagggtat ccaagagtcc ttatgccaga 89100
gagcctcctc catttgccac ggaacctcct cccactgaat gtttttgcca ccatgtctcc 89160
acagctatgc ctcctacctg gtgtggaagg acctgggagg gggcttgggg tggccctgg 89220
ccctgcctct tggcctctat gctgttcagc tcaccatcag ctggactgtc ctggttctct 89280
ttttcacagt ccacaaccct ggtctggtaa ggcacacagt gctcagtagc agaagtaatg 89340
tgggagaggg tgaaaccacc tggctccaga agcacataat tcagcagagc aattgagtgc 89400
aggcaggtaa tgggtgggca gacttctctg cactcccatg gtgtgcacag agccccaggg 89460
actgagctcg ttgctgggct gggtactgca gaaaggtgga ggtgctggtt ctcgggcagc 89520
cagctgaccc ccggcctcta tgcccaggcc ctgctgcacc tgctgctgct gtatgggctg 89580
gtggtgagca cagcactgat ctggcatccc atcaacaaac tggctgccct gttactgctg 89640
ccctacctag cctggctcac cgtgacttca gccctcacct accacctgtg gagggacagc 89700
ctttgtccag tgcaccagcc tcagcccacg gagaagagtg actgaggccc tagggcatgg 89760
gagaggaggg acgcccaggg tggggaggaa gagtctgcaa gcagggctgt ggagttaggg 89820
ttcaccccaa tgggaccacc ctcctgggtc ccctggtgcc gtttttcctt agaaatcaga 89880
gaaatgggaa agggggggaa actgatttta cacttaaata ataaaatcct attagtaact 89940
ctgaaggtat gatgtgaagt gtgtatttga atgcataata tgatgactag ggcggcagag 90000
tgggatagaa gcttctggac ctctgtgtga gtgtgtgcgc gtgaatgaat gtgtgaaggc 90060
ccatggggga ggggtgggca caccagctcg cctccattca catgcctccc cacctggcat 90120
aaagatttag cactcagatg tttaattacc tgaaaaacaa aaggcttttt aaaagtgaca 90180
aaaaagccaa aacagaaaaa tacaccttaa aaaagggtac taggggccca ggagtggtgg 90240
ctcacacctg taatcccagc actttgggag gccaaggcgg gtggatcatg aggtcaggag 90300
ttcgagacca gcctggccaa catggtgaaa ccctgcctcc aaaaatacaa acattagctg 90360
ggtgcagtgg tgagtacctg tagtcctagc tactcaggaa gctgaggcag gagaatcact 90420
tgaacccggg gaagaggagg ttgcagtgag ccgagatcat gccactgcac tccagcctgg 90480
gtgacagagt gagactccat ctcaaaaaaa aaggggggga tactaattat acatgttaag 90540
gttatatagt atatattata cattaattta tatatcagat ttatgatgca atatctagtt 90600
ataacatata ctatggttgt atgatatata tgttatacat ctctgataaa taagattata 90660
gaccttcttt tttgctttca tacattccta tgctttcctt attttacatc aattaattac 90720
tattagaata aggcaaagaa gattgaaaaa aagagattaa gcctcagggt gctgacaggt 90780
gaatccatag gagcttcttg ttcagccttc tatcttgctt ctctttttct aaaccttctt 90840
agtggctttt taatttttga ctcctccctt ctctgatttt cttctgtcct tgtttcaaag 90900
ccctgatggt ggcaaggagt gaccgcccct gagtaagcct cctcaaatct ttaacaaggt 90960
cagctggaag gcccagacac cttgcagtag ggggtctcca cctgctgcat gatggggatc 91020
accagaattg tttaaaaatc ctcatcagcc tctccaggaa ggaggcctgg gcatcaacat 91080
ttttaaaact tcccaagacc tcctcaggtg cagccaaggc tgtaccacag ctgtttggag 91140
ctatttaaaa aaatgcatgt tcctcagacc gcactcagga cccataaatg agaacgttgc 91200
gggtgggctc ttggcatctt cagatttaaa acctcctgag cacttctgtc agctgctagc 91260
tagtttgagt gctttgggca cagatcgttt atcagggccc gtttagcctt gacactctga 91320
ggttttgtga gctgagtttt agagctgaaa caaactgtat gctctcaggt gagaagccag 91380
taaggcagca taatttgaga agaggagtgg ctctttccag agctcaccca agagagggag 91440
tctgcagcct cccctcctcc accaagggca tgctcagccc agtgggtcag gtcacaggca 91500
ccccaggagg acacacacag tgtcccaccc acctttgtat ctccagcccc aggacagggc 91560
agagcacaga gtaggtgctt gtacgttttt atttgttgat taattgaacg aataaatgaa 91620
cacattgttg tactttaaaa acaaatgctg accagcacct gccgccaccc ctacccccac 91680
ccctactctg gaacaactga aaaaagaagg gaaaggcttt aatcattttg gaaactcctg 91740
gttctaatgt gcagccaaac tgagatgtgc tgctgcaggg tattgcttct tactgcttct 91800
caaagtgtgc cccagagacc tcctgagaca cttgttggga ctccagaccc atgaaatcag 91860
gtcatcttgg ggagtgagag caatagggta tggtgatttg cagttctggc catggagtca 91920
gaccaacctg gggttggata ttgactctgt tatctattaa ctggtaacct ggtgcaactt 91980
ctagctataa atactgatgg acagaggata ggctcggaac ccaaaataca tgggttctta 92040
cccagctcta ccaccattgt gtgatcttgg caagtgggca ccccagacat tatcttccat 92100
tatcattatt atcatctcat aataatatat gcattgtaat atttgctacc aattttattc 92160
attaccagct aattctagaa gttaggtgga acctccaaga agatgtatga tgcctagggt 92220
attactttga cctccccaag gcaagctgga gccactaacc catgcctcta gcttaggact 92280
tagccctaga agaaagctta atttgggcag tgtcccaagc cctgggctag cacgaccgcc 92340
tgatacagca tgagccaagc taaagagatt tttggccatg tgcagaaact cagcatgaaa 92400
gggcagaatc ccaactccaa actcttatcc tctaactcca aagttgtcct taaaatcctc 92460
ctctgcccca gctccttggt tcctgggtga agggagcccc taatcccaca gtctccaacc 92520
tccctggggc tcttatcttt ccccttaccc cacttcccag ttcagagccc agcctagtgg 92580
acacctgcct ttgcccctcc tctcttgtta cttaagagct gtgcctaaat agacttggag 92640
ctgcctcttc tctttgcaag tgtatcccaa gcttccacca ttcaaattat gtgcacattt 92700

ttgttctgag gcagtatttt tccatttgcc tctgatttgg ttgagtcgga gacagacaag 92760
atcataaggc tctgcagatc tcccgtccag cggctagaga ggcactaggt aaaacagcag 92820
acccaggagg tggcatatct cattctattg tatcctagtt catcctttcc tcttctaaac 92880
cttcactctt cctcactttg ccaatttctg cagaatggaa acatagagag gctaggtgag 92940
atggcagagt ggtaggtgta tgtctagtgg tcaaagattg gtcagctggg ctaggaacag 93000
ggcagagtgt aggatgtatt tattctgcac atctctggcc cctcctacct acaggcaggt 93060
agagctgctg cgcaggagat gcctagaggc ccctgaatgt tgtcagtcct gggccagggc 93120
tccaaagtct cttttctttt gtgaatggcc actatctgct ctgtcgcttg gggctcccct 93180
gtaccccaag cccagtttca gagtcttccc agaggtcccc tttcttgtag ttccagaaaa 93240
caagcacaca atccttttgt tttaaggatt ttactgctga ttctcattag cagcttacaa 93300
ggtactcagt ccaaagccca actttgctga gaactccctc agatctcgac cttcctcttg 93360
tatcctcaag tagagcccaa aaaaacattt acttgcctcc cagactcctt ctccccccac 93420
ccccaaatgt tgaggacact ccatacattt aggctcttct tctggtatgg aagccagggg 93480
aagccatccc tggtcacacc agggccttga tcatgttcat cagggcctca tttgtccctt 93540
tcccaggtcg cccagcccac acagagatta tccgctaaga caagtaccag aaaaatcccc 93600
ctagcgtcca cttgcaccta ctctaacaca tttctcattt taagggctga aattcccctc 93660
tcaagttgat tgtagtttgt cacctcttcc cagtaggttc tttggccttg caaacacccc 93720
ttcaaagagg aatactatta gtcaccttaa tgtacatgat ccttatcaga tcactttctt 93780
taaagactga aagtgccagc cacgggagct gggcagtgcc aggagtagcc actggaatgg 93840
aaaccatggt gaccaggact aaagtcacca ttttacccag ggtggtgtgt cccacatggc 93900
aaagcaagca ttgtgtcctg tacagaagac tgtaaactct gtcctgccct gtgattctgg 93960
tgccttctcc aatcccagcc tcagactctg ggagacccct ggcccctcc cctcttcatt 94020
ggccaaggct gctcaaagcc ctggacacct cacgtttata tcaacagagc agttgctaga 94080
ggaagcagcc tcccgccctc cagaggggtg tctggtgccc gagccctgtt gtttgtgtac 94140
cttgtctcag tagtgaccag aggggcaggc aggcctgggc tgtgtctctg gggcaacgta 94200
ctgttggggt cccagctgtc cctgcacata aagcaccgac tccatcaatg cacccctgag 94260
gtatcctctt tcagggagtg agaatttaaa ccttcctctg gtgaggcttc tattttccac 94320
cagccctgct cctggcctct ctgctccctt cccaatgagg gcagctccac atccagccaa 94380
gatccaagga acaaccatgc ctgaccctgt cctctccttc tcagccacct cctagaatct 94440
ctgaatgttt tctgaaatga ccgtgggaaa caggacaggg agaggcatgc tgcagcgtat 94500
cccaggccta acccagctcc tttcagccac tgccatccca acagaagggg gcaagggcct 94560
gcagagacag gctgggagga ttccaatttt ggtttccatc cccagatact agctgtctgg 94620
tgtctcttta cctgtacccc caaaacacag atacacacac acacacaccc ctcatgtacc 94680
aattactccc tagagtctgt ttttcctgca agaactcctt ctcagcttct tcaactccca 94740
ctggtctctg tccttccctt ctcccagagc tgggcctcat gggtgctggc agcagttgag 94800
actgaatggt gaaggaggta aaacatgact ctggaagcac atggctctgc cctctctagc 94860
tgcatcacct tgggcaagtc acttaacctc tctggtctca atttcctcac cagaaaaatt 94920
aggataataa tagtacctac cccaaacatc cttgtgagga ataaatgagt taacctacat 94980
aatattttag agtaatgtca ggccagcagc aaggactgtg ttaatgtcag ctctccttgt 95040
tactaaattc cagggaatat gacacagtag gagaagcatg gaacttggga gctgacagat 95100
atgggttcaa atcccagcac cccactgact ccacatgtga ccttgaatga aataccttac 95160
tgcccagtat cctcctgtgc aggaggggga ctactgatag aaccttaccc aatagggtta 95220
acactgggtg tggggtgtgc cagccctgaa gagtatagag gcagctgtag ggagaggagt 95280
caagctcctg gaatctgatc ccccagatta gttgctgcac tctggggtga gcagagtaaa 95340
ctggtctgac ttggaaagaa gagccagaga ccagccagga attcaggccc ccaggaggtg 95400
ccataaatag ctagagcaga tcagagggcc tccagggatg gcaggctggg agacggggaa 95460
ggctcaaagg agcagtgaaa aaggaagctg tcagtcatca gtctgggggc agacccagga 95520
ccctctccca aaggtcgaag ggaaaactgt ctataagtaa gacagaagaa aggggtcaac 95580
tcttaaggac cagcctgaga ccacctgggc accattcact ctgagctgtt gggagaggca 95640
ggaaattctc gacacgccat tcacctgtgg tcttcacaag cccactcggc gccctatttt 95700
ctgccctttg accatttgga aatagaaatc aatagcacag cctgtgtcac agatgggaaa 95760
acggaggctc agagatgtca agtgatttgt ccaagatcac acagtgaatc gggctaagat 95820
ggggatatga acgtagaata ttttttgcct cctaatccag ggttatacat gacagccaaa 95880
atagaaggcc ctgtcctcag ggaggaagtc tttcttgcag gggaacagtg aactgaaagg 95940
atccatcctc cttgctttcc tccccaagac attttactct tcctccgttg atccaagcat 96000
atcaccctag ctgggcctgg gaagtgtgag agggatgcac atttataatg cttcagagat 96060
gtttcatcaa aggtagctgt gcgcagccct gggaataggc taaacttgaa cttgggctct 96120
gaagacctga actcaaagcc cgtgtgatct tatacaaatc acttcacctt tctcagccac 96180
aagtccctaa cttgcaaaat gaggcccata attcacaccc atgtgagact ggtgtaagga 96240
ctaaatgaga taatgcatgc ttgaatgctt gattaatgcc ccaaatatga taaaagctgg 96300
gatcccctgg tgagccagca ccttatttat ctctgtactc ttggtattta ccaccgcacc 96360
tggaacatag gaacctctga taaatgttga ctgaacaaga aaatgaagta aactctttac 96420
atttaaacgt ggtatgtttg tgtgataaca acattctttg cagtttatca gctgccactg 96480
tctttttatt gtggacacag gcactattat ctctactcag tgctttattc cccccgaaaa 96540
atgtttgaaa aaataagatc cagataaaaa tgctttcagt ggctgggcgc ggtggctcat 96600
gccacccagc attttgggag gccaaggcag gcggatcacg aggtcaggag atggagacca 96660
tcctggccac atggtgaaac cctgtctcta ctaaaattac aaaaattagc tgggcctggt 96720
ggcacatgcc agtagtccca gctactttgg aggctgaggc aggagaatcg gttgaactcg 96780

ggaggcggag gttgcagtga gccaagatcg tgccactgca ctccagtctg gtgacagagt 96840
gagactccat ctcaaaaaat aaataataat aatcctttta gtagtaaatc caaaaggtag 96900
gggaccatat aatttattgt ccacagcggg acacctttgg gagtaaaggg gtgctattag 96960
taattatgtc tggacaacag gaagaaacca tgactggcaa accaaaatgc tgggcatcac 97020
actaacagag cactctgctg ctcagactct ctggaggagt gagccctaaa tcttccaaac 97080
catcttgact cctcttcttt agtcagaccc tccaaagggt gccctaccct ctcatcccca 97140
ccagccaaac ccatttggag ctgttttcag atccgttccc cagtgttctt aggttcctca 97200
ttttcaacct acaagtgacc ctgacccctt ccttctgctt ccctgagaat ggcctagagt 97260
gtttgcactg ctccaaacac gaagactttt gcctctgcta agtacccatc atgagagctg 97320
caaaaatcat ctagccatcc tctgctgctg ttccggctca gggtcttttc tatgggcccc 97380
catcatctct ctctggcctc agtaggcttc tcactggtcc cctgcctctg ctcttcccaa 97440
gtgctcagac cacctgtctc acctgttcag agacaatggc ttcccacctc agtctgagaa 97500
aaagcaaggt acttatgaca gcccataagg ccccagtccc ttttaccctt gttatctctc 97560
tggcttaatc tcttagaact cttcagtcac ccagatgtat gtcctcgcta gttcctcaaa 97620
caccccagga atgctccctt ctcagagcct ttgctcacgt tgttcccttc cttggaacgc 97680
tttcctctta gacaaccaaa tgattagttc ccttgccttc ttcacgtctt cttcaattgt 97740
ctccttttca aagtccttca ccctggccat cctataagta cgtaacccca cctcttagca 97800
cttcctgttt ccatttcctg tcttttctcc ttggcacttg tcatcacaaa atagaccatg 97860
tattttactt accttatttg ttgttcagtt cctcaagctc cacaaatcat cacagcaggg 97920
attttcattt gctttgttct tttgccatat tcccagtacc tgaaacagca cctggcatag 97980
agtagatact caataaatat ttgttaagaa gaataaaaga ctgactgtga gggcacatag 98040
catggaggtt gaatatttgg cctgaagtac aaaagcctgc attttaatcc cggctctgca 98100
cacttctgtg actcagttta cctgtaactt gggataatac acatcgcctc ccatggctgt 98160
ggcaagcatg catctgattt catttaaacc cctaaaccca ctgcctggcc tgtttcaaaa 98220
tctctgagct aagtaaatgg cagctattgt tactcaggga ggctcctgat cgatttgaca 98280
ttacattatg gctttgtaac aggcaaatca gcacccaccg cttttgagtc ataactcaca 98340
cacttactcc ccaaattgtc agttttgatc ccacctctgc caggacccct cctttcctga 98400
acccacgttc ccccaaagca aatggcctgg gtctttttgc agtcagcccc tttcaacaca 98460
catctcctcc tgtttaaatc tcagaaggcc accctcctaa atctcaggat gcctgccctg 98520
gggccccttc cacactctcc cccagtggag ctagggaatt tgggtgggaa acaaagggga 98580
gaacataagg tgagctgaga gggagaggga gaagagagca ggccaagcca tacccacctg 98640
ccaggttcct gtctttgcct actgataaat aggggatact aatggccaga ttttccattc 98700
ccccacccca gcacccgctg tcactcaatt aaaaaaagat agagggagag agcctggggg 98760
aggggcagga ggccttggct ataaagcctg tggctaagtg gggaaagcac gaagcctggc 98820
ctgctgggtc cttttcccgt catccccagc cagatttagc tgctgacagc tgcttgggac 98880
tctgccgcca gggcctggcc cagacctgcc tgcctctctc ctctccctca gtgactcctg 98940
agccacagcc cctccatggc ccagaaggaa gaggctgctg tggccactga ggctgcctcc 99000
cagaatgggg aggatctgga gaacctggac gaccctgaga agctgaaaga gctgattgag 99060
ctgccgccct ttgagattgt cacagggtaa gcctcagatg tgggtcaggg ttctgctccc 99120
tagaagagtg cagccttggg ttaggctgtg gaaattcagg atggttatat taggcgtcag 99180
ggacagctac aaccctgcag cagtgagagt gcaccagtgg gcccggcagg ggtggtaggg 99240
gacccagcag caaattctct tggcttctca gggtgacacc ttgggctctc taatcaggga 99300
gaggtaggag gagctccttg gaggcaaaag cccagagaat aaaaccaccc ttcaggcctc 99360
ctggtattgg gatggccacc tgcctctctg ggtagaagct tagtcccagg gagtttggcg 99420
aggacagagg atgagactgg cacatctata tgtggctccg ttcaaagcaa cccttccact 99480
caacttctct gttcctgagt gggtctctcc gctagccata ggcctctagc cctttcttta 99540
gagcttcttc ctggagtaga tgctcccaag acaggaaaga tagatccatc ctttcccaag 99600
actcagaagc agctttttc ttattaaatc ttttgagtct cctcaggggc tgtcccacag 99660
agaaacagag aaattacatg cagataacgc agcccaggag cttatggaca caggagctgt 99720
tccaacatgc tcaggcattg cctggaggaa ctgggaccca aagaaaaggg tctacagact 99780
gcaaggaggg ggctgtgtgc agggtacctc tgtcttatcc agattatgcc atctccagga 99840
ataaaactaa gtagtcttct tcctcttccc tttctattcc tgtagtggaa gacccttcta 99900
aatcctgagc aaagaataaa aagagaatct atgaggccat atttcctcct tgaaccaaac 99960
gttcccttca tggggtctcc aggaatgacc acaggcagag tgggtgcgag actaagagaa 100020
gtttcaggaa gaaaggaggc atgatgcttt caaggggaa aggaagccct gagtggcaat 100080
ttggacttga tatttcaagc ttgacaagtg attttccagt cagccacagt tttagcactt 100140
ataacatgaa gatctatagt agtaaggtcc cttccagctc agatgttttc tgattttcaa 100200
gagaacctaa gggaaaatgc atcctatttc ctgaggcaag agtagcccct gaatttccat 100260
ttgcccatgc ccacccaact aatctcaccc tcatcctagg attaagggag cagctgggca 100320
cagattaata tagacacagg gaaagcctaa ggcagcctgg ccaggagagt cctcaattcc 100380
agtggctttc ttatggaagg agagcctttt tctaacacct aagcatgctg gtatacgcta 100440
tccttagtca tacacacacg cgtgtgcaca ctacactctt gtgtggcttt ccaacacaga 100500
gggagggtag gtcaagaaca gaattagact atgtttgttc agctgaacat gctttggggg 100560
tcccagagca atggatcctg aagggttaag tccactgata taacttacat ttgtccaggg 100620
ctttataatc acaacatagt ttcatgaaca tgagaccatt caacactcag cacaaaggta 100680
ggagagggag atatattatt gccactttac agaggggaa actgagactc agagagattg 100740
aatggtatgt ccaaaaccac agaactggta ggtggcacat cttcttactc ccagcaaagt 100800
atcctttcta ctggtttctt attcattctg gatcccaggt ttcccagagc tccacgttat 100860

ctctatctgg gaggtagtga ggacccaagg ctcagaaaaa ggggcacaga aggggcaacg 100920
ttctgagcat tctgtgaaca gttcaggtgg gagcagagcg ctgagtgttt cctggccaca 100980
agtaacagct gtagagagct gtctcctggg cccctctggg taaacagatg gcttaaaata 101040
gcccagaggt gcagctgggt ctgtgcaggg agagggtgag ggaatagctt tcctctcctt 101100
ccctcttgag atgcattccc cccaggactc cctcctggag tcaagggggt cagcaaagca 101160
gcttttctag cctggtctcc tatagggaag atctttagtg ctccttatat ttgggccaaa 101220
aactagcaga agagcaggta gcttttccgg aaacagtccg acatgaggag ggtagctggt 101280
aggaaggaga gatgcccagc tcatagcgat tctggttgaa tagggcattc aggatagaaa 101340
gcggaactga gcacattaac aaaataacat ggtagaatgt tctggaaaag ggcctaagcc 101400
tgccgtagcg tgctgaagcc agttcctgtt ggttcacaag tctcttccct actctgcatc 101460
cagtgatatc acctcgggag cttgaaatct ctgtaatggg agtacttacc ttatggaaat 101520
cagcaaactt tagaaattgg ggattcttcc ttctatcaga gagatgagtg ttacacttat 101580
cagcacacca ttgaaaacca gaaacctctg aaagtgagag gaagagcagt gggaaaggga 101640
tcaggtttgg taatgcttaa gacggagctc tgaaggatac aatttgaggc ctggagaagg 101700
catcatatgt atcatacatc aatttccttt ttctttttg gagatggggt cttgcttctt 101760
gctctgttgc ccaggatgga gtgcagtggt gcaatcacag ctcactgtcg tcgcaacctc 101820
ccgggctcag gtgatcttcc tgcctcagcc tcccaagtag ctaagactac aggtgcatgc 101880
caccacgccc agctaatctt tgtattttta tagagatggg ttctgactgt gttgcccagg 101940
ctgctctcaa actcctggct tcaagcaatc ctcatgcctc agcctcccaa agtgctggga 102000
ctattggcgt gggccactgt gcccagacta gctttgagtg tctactgttg tccaaaacct 102060
tagaagttag attactcact ctttcaggtg aggaaactaa gcctcagagg gattaagtca 102120
tatggccaaa gcttgttgat ggagtaggat gtgaacccca ggactgtctg actccaaatc 102180
atcacactgc atccaaaaaa ccagagagga ttctttttat atttactgaa taagagtttt 102240
tcatttactg cctgtttccc ctgttagtat ttaacctcta tgaggacagc actttgtctt 102300
tttcactgct ttatctttag cacctagctc ctgataggta ctcaatacgt atttgttgaa 102360
taaatgaatg acctaatgaa taagaacctt ttgggtggtt cttaggctct ctgtcagaca 102420
agacagggaa tgaactgggg gagggtttct tgaggacagc agctcagggt gtatgacgat 102480
ccagcaacac tagatttagg taagaattcc cctggctcat gcctgcttct ggacacagca 102540
cgttttagta gagctctggg gcacgagagc tggttgtctc cccagctttc caacccagtg 102600
agaagtgact gtggctctgc ctggcagcac ccttgatgtg agcttggctt tgtctctagt 102660
tatgttgtat atgtttttac agaaagcaga acctcctatc ccagggatta ttatggaaca 102720
aagataaatg gcacacagag tgattcttct tctaaccact tctttagcta ccagtagttt 102780
actctagcca tgtaaggaac acagagaggc agtgtccaga ggagaagggt gagataagga 102840
gtgaggggac ttcgacacca gttaacacca gccacagccc tttaccctca ccctggcctc 102900
tggagcacgc tgggtggtgt gtcaccaaga agagaaggca gcgcactgac tctggccaac 102960
ctgccttcca cagagggttg ggggcaggtc aaagctcagg tgtgaagacc atgcctacca 103020
gggaaaacag gcaagttcag ggtttccctt gggcaaaatc ccatccagtc ccacagtctg 103080
gagttcccct ctcagctcta gggagtcagg ctgctagaac cctctgctcc tgctcttact 103140
actctttctg attatgccca ctccttggta tccgctttga aaagtggtct gagaaagcag 103200
aaggccaatg aaaccagcaa tcctccctct ttcacgccag tcaccaacag gtctagtgag 103260
ggaaagctga aacaagtcaa cacataatta cctatgagta gatttttcca ctcatggatt 103320
attctggagc aaatgtttaa tctcagtcca gcttcaactg ccctctgggt tgcttccttt 103380
cacagtatag atttacgctt agaaaattca aacgttttga atgtgaacct gagaaaaatg 103440
tattacattt actcacatcc cttctccctc catcaagcag attatcttcc caatttttt 103500
tctagatatt tggactctct gtttcctccc aagtgaactg aaatgtccag tagcctgggt 103560
ctaagcagat gaagtgtgac tggtcttgtt tggagaaagt atgaggaaat ggtgcttaac 103620
aaggtgctat cagaggctgg ggagagggaa tagaaatcag gctgtaggtt tctacgcatg 103680
aggaagtgac tggatcaggg aaagaaatct actaccagca tctctctcct gaccaccacc 103740
caccaccacc accccacccc acacacacac acacacacac acacacacac acacacgttt 103800
ctacgcatga ggaagtgact ggatcaggga aagaaatcta ctaccagcat ctctctactg 103860
accaccaccc accaccacca ccccaccaca cacccacaca cacacacaca cacacaggtt 103920
tctacgcatg aggaagtgac tggatcaggg aaagaaatct actaccagca tctctctact 103980
gaccaccacc caccaacacc accccaccac acacacacac acacacacac acactcacac 104040
acacacacac ccccacccct ttaccagtaa aatattttct gggttaaatg taaagggcta 104100
tagttaaata tgatacttag gcctatcatg ctacttaaaa aaaactgctg gtgatgattt 104160
aacaagttag gtgtcattat ttccttcctt ccactagtgg gcataatagt gttaatttat 104220
tctgtgagtc tacaaaattg cccaagatgg ccatgttgtc tagttccctg gagaaattcc 104280
agacttctac tacctctgtt ctcctggttt ccccccagga cgtagctatt tcggtctgtg 104340
agaggcctaa agaatctcat ctgacctttt tgctccttct agaagaccaa gaaacccatt 104400
cagaaatcaa gcaagtttag tctctgagca agcccaaggg aacgactagg aaccaaacct 104460
tccctgcctt tcctttgctc cttgaaagca cttcttttcc tgaggcatct agtccagaag 104520
gccctgctga gggacagagt agattctagg gctgctggcc agaggggttg gaaacccgta 104580
tttatagaga gatgaccttt cttcctctcc cttgggtttc aggtttcttt gggtcttctc 104640
ctcttgccta gggaagagga ggaggggaaa atgtcagagc ttaagaaggg cagaaagaaa 104700
cagtcacctc acaaccatca aagccaattt gcaattgcat gctgggccaa attcacactg 104760
gcctaaattc atactttcag ctgagctata gggagctcca gaaggaaaag agggaccaca 104820
cagcagctac tgtttaagct tccaagctat ttgagtagcc atgaatactt gccagggttc 104880
cacctgataa tccatcatat aggtggccct ggattagact tggggagtgg ggcaaaaggt 104940

cttgaagagc aagtttgggc aggaacggta agctctgagc ttctcaaaag caaaaagcca 105000
ctccaggaag tgaagggacc atttggcaac tggtaaagtt gaggagtggt ctggtggggt 105060
gagtaccttt ggggagcact cactataagt gaacgcctga cagggattga gaagaggagc 105120
agggaaacat caggcgatcc attctcctaa aatgttaagt aaacaataaa cacctccaac 105180
tagggacaca ggggcttaga gagctaagta tagtacctga tggaatcctg gggctgggtc 105240
ctcaaacaca tccatctcca cagtggaaaa tgaacctgac agcacgggac atggaaactt 105300
gggtggatac attttggtga tgggtggggg tgagggaatc ctgcagggaa ataagtcaag 105360
tttactcata tctttggcat ctgctgctca tccctaggca gccaaggccc tgggatacca 105420
gggattcccc tgcagcccag ggagtctgtt gacttctttg gggaaagaga agaggtggag 105480
acaggcaata gtagaattaa tggtgccata ggtatctctt ggggcaggca gagagattac 105540
atttttaaaa aggaaaacat tgaatctttc tagctggtac tcatctcctc ctctcttgac 105600
atttttcatc tctcctatta aaaattcatt ttctttggac ttcaaacttg aacaaatctt 105660
gcctatttta gaaaaacaca cacatacaca taaaagtaaa aacaatcttc aactctgatg 105720
tcttctctgg cccttctctt ttttcttctc cttgttatta ccaaaatttt caaaattcct 105780
ggacttttcc tgctgttttc atttcctaac catccatctc ctcctcaaag gcacccacac 105840
aattcatcac caagtttagt gtcctaagat acctactgga cttgttcaat ttgaggcttt 105900
tcctcagctt cacactatct gcctattgcc aagactgtaa tcttgcatgg acatcatttt 105960
tattgttttc cttctcaaga acctgtaaca attctctact gcctcccgaa tcaaggccaa 106020
actttcgaga accttcataa tacttccttt actgtaccta tccaatttta gcagtcttat 106080
aatgttctca gctgttttat ttacatcttc tctgtccagc tgcaatctag ctgctaaatt 106140
ataagcatct ggagggcaga gaccaagtcc tttaagattt ggaggtgact caatactaaa 106200
tacaggctta actatcccaa gataccctg agtagtctgt cctcacagat aaaaattctt 106260
ggacacttag catgtgacaa tccctttacc tgaaagtaaa cagacttgag aagtagtcac 106320
ttgagaagga gagcatgtta ttgcaagttt taggccattt catgccaaga tgcaatttac 106380
atgagttaca aggaagagaa aaaagcataa aatgctctgc aaaatctttg ttttgctctg 106440
tcatgagaaa ttttatatgc ttgctactta cctggccact tattggaatc atccagagag 106500
ctttttaaaa atactgatgc ttggaccacc tctccacatg ttctgattta attggtttgg 106560
catgaggccc aggcactgac attctcagtc ttctaggtga ttctaaggta taggcaggtt 106620
aaagattcag tgatttagaa atgtaggggt atgttgtgct ggaagagtga tggtggagac 106680
aatgtcctag tagggtgacc aaaatgcaca cctcagtcca aattctcctc tccttcagat 106740
aaacccttct ggatttttta atgctttttt ttttttttct ttttttgtca ctgatgttac 106800
cacagacaag acctatttat agtaagagtg aatgcatttc tgaagtactg acctggaaga 106860
gctacctact ctaggctggt tctagaaaca agaacttatc attctttcct gtccttttgt 106920
ctccttgacc tacagagaac ggctgcctgc caacttcttt aaattccagt tccggaatgt 106980
ggagtacagt tccgggagga acaagacctt cctctgctat gtggttgaag cacagggcaa 107040
gggggccaa gtgcaggcat ctcggggata cctagaggat gagcatgcgg ctgcccatgc 107100
agaggaagct ttcttcaaca ccatcctgcc agccttcgac ccagccctgc ggtacaatgt 107160
cacctggtat gtgtcctcca gcccctgtgc agcgtgtgct gaccgcatta tcaaaaccct 107220
tagcaagacc aagaacctgc gtctgctcat tctggtgggt cgactcttca tgtgggagga 107280
gccggagatc caggctgctc tgaagaagct gaaggaggct ggctgtaaac tgcgcatcat 107340
gaagccccag gacttcgaat atgtctggca gaattttgtg gagcaagaag agggtgaatc 107400
caaggccttt cagccctggg aggacattca ggagaacttc ctatactacg aggagaagtt 107460
ggcagacatc ctgaagtagg gcaactgggc tttgcctcac gtgagttttc ctggtgccat 107520
ggcaccaaca ctttattatg ttaactccag tagaaggtgt gaggtcaggt agaatctgtg 107580
atatgtctga ttttcctttg gaagggtttc atttctctgc ttttgactgg ttgcaaaaat 107640
agtttagaac atgtctcttt cctctgaatc cctctctaaa cttttccctc ccacactttt 107700
gtatcaaagt aactttcccc taacttagaa tactcaaggt tgacaggaat cctaaaactt 107760
tcatgaggca agatgacgtt ctttggtaag atttagatgg tgcaagcacc tgctactgaa 107820
ccacagcaga gaagatactg aaatcctctg agtatgcccc tgtgtacatg tcagggatta 107880
ctaattccag acatcttcta gatgcctcac tcccatatcc actggcaatc ttaccattcc 107940
atttttctct aatgaatgtt ttttagtcct tcagggacaa ttttttcact tatggtaatt 108000
ttgaaattcc ccaaatggac tggtatttaa cttgttttaa gccagacctg ctttcatgtt 108060
ttcaaacaaa tggctacact ttgaaggaga ccaacaattg ctgtgtgaaa atacaatacg 108120
ggaacatttt ccttatgttg agaagacctc agtagaattc atggaggatg tcgaatgcag 108180
gaatggggat aatatagcaa caagctagtc catgcaggaa catttaaaga gttaaaaaga 108240
catttgtaaa gtaggcagca gctcagaagt aacctcttac agatatcaag aggtgatagg 108300
agaaagatta gctatttaag caaataatta ggacacaatt aaggccaatt tggcctcttg 108360
ctgagggtaa attaaactct aacagaaaca ggctaattac cctcaggaaa gagggctaaa 108420
ggatccttta ctatcttttt tacatttagt ctgattgagt ttgcgcctac agaaatgcta 108480
tgacgaagcc ccctttgcaa ggccccagtt actgatcaaa atcttccagt aatagaggag 108540
gggtactcac gacactctta cccaacttta atcctgcaac aactcacata ttactaaaac 108600
atgaaaacaa caagcttcca tgaagataat ttacttttgg tctctctcac tcctaacacc 108660
cttaagagaa gatgtcgctt catagacacg tttaggaaat atcaatgttc cagagcttga 108720
tgttggcagg tgttttctat tagacatgca catgggcacc tgatcattct caagctgagc 108780
atttgccaac ccatgaagat acaactttca gccatttctt ttaaaaagca ggacccagtc 108840
actgaagtca gtgagcctat gatagggtat actgtgtggt actctgctca cataaaataa 108900
gacactttat agtggtgaac agtagtcaaa acagatttct gagggtgccc tctgagaata 108960
taaaatttaa cttttagaat tccttgaaga ttttgttagt gtatgtacta tcactgtaat 109020

tataaaccca acatagattc tacagactaa ccggcagctt aaaatttaac cccagtatat 109080
tttcctttca gacatctttc agagtcaagg gcccaggtgc ctaactagca agtccttaga 109140
gctttttttt ttttttttt ttttcagtga tttcaaatat aactgtatta tctggaccca 109200
ttaacatgct tccctgtctt ctatttgaat tgctcatgtt tgtgaaggga aaggttaaga 109260
tatatcaagt taaaaaaaaa aaaactggca tgagataaga gtgtaatcta aaagcccaaa 109320
agaacaaccc tgcttaatta aaataatctt gagaaatgag catttgttaa ataaagtgtc 109380
ttattttaca tacttatttc atctttcttt ttttttttt taatgacaaa atagtattta 109440
atcctatatt tagtcaaaag accagagtta aaccagatct cttctggggc tttttctgtg 109500
taaaccacat caaaacatga acgaaagact ggcttctggt ttagtcaatc ctggtaaatt 109560
tacccaatcc tgcaaaggaa actatggagg agaaatccag ggacttgttg ggaagggcac 109620
acagaaacct tagttcaaaa agaaactagt cattgttcgg ggccagcaga gctctcagta 109680
acacattttc tttgtttgtt ttaccaaggt attcctgctg ccaccaagag acagcaatga 109740
catgtacagc catctgggac atgcctgtct tcctaatacc atttggagct ggacaacatt 109800
tgacaccaac caatcatact ggacaaggcc cttagaggac ttgaaatata cttctcatgc 109860
tgtagtttat ttaggctgtg actctctctc taatgctgct ctcgggaagg acgaaagtga 109920
cctgcaagga gagaaatgca accatacatg ggctccagtc aactatggga ctgaaggtcc 109980
taattgctca cccaaggggg ctgcttaaca caaacagcct cagacccgag gtttagattt 110040
ctgaaatatg cattttatgt taagttgggt atttttttaa aaaaagaaaa acagcaacat 110100
taataaaaga agtggtgtgt ttttcccgtg gccagatttt taagaaactt gaacatctgg 110160
aagttgccac agacaagcga gctagtccag acacagggac actccaggct atgaaccaag 110220
ccatggttaa accaagactt gcctagacaa tgcagaataa ctctcccata cagacttctt 110280
acgacaatca agtgagggcc tttcccttct ctgaaggcaa gtaatagggc agaaggtgga 110340
acaaaaagca tgagaaatct aaggtagcca catcccaaat gccagttaat aagcaactag 110400
cttctttatt agagaggagc gggtgaaaag tagtagttta atgttcagat atacaatcat 110460
ttaaaagtat tcaatacatg gtgtttgatg gtaatggcag gatgatgtca agtctctctt 110520
ttttttttt taaaggtttg tttgagtcct atgtggaagc aaaaattcac aggtgaattt 110580
ccgggtgttt gccaaactct aactaggttt ccaggaataa tgtgttcact ctgattacca 110640
gggcatgcct cctttcctca ggcttcaagt gtgataagtc gtcggaattt gacccaagac 110700
tactatcggc aaatgacaaa gtgctttatc acattcctgc taagtcccag aattccactt 110760
acagccaatc ctgaatgaga ctaggttttg tctaaagaat caaggctcaa acgccaagaa 110820
aaaaataata ataataacca taatctcttt aaaagtaaag gaagcctaga aaatccatgt 110880
tttgacttgt gttaaggttt acagatggta ctcaatttac aatggtttgt cttgcaattt 110940
ttggacttta caacggtgca aaagccatac acattcagta caccttcaa ctgaactcaa 111000
cttaagatgg ggttacccag acatagacct aagttgagga gcatctgtaa ttgcagagtt 111060
aagcaaaata ttttaagttt ctttaagttt cttatccccc actctcactt tcaattttgt 111120
gtatttagat aatctctcct tccttttttcc cttcaacttt atgtggacaa aagcaatgct 111180
tcaagaaaag cctcaatcta aaagtttgat aatgaacttg accctccact gcccctaccc 111240
caacaacatg aagaacttgt ctgttccacc tagaaataca aaagtgaaat actttttga 111300
aactgttgcc tcttatcagg ctgatatgtg ataagaacac agtctaaagt acaaagatta 111360
tatttaacca gtactttcct ggtgttttaa ccagcccctt ctaaaataca gttgttcttt 111420
tatacttggg aaagcagcaa gtcctgtgac agacccaaag tcactctagg gagaaaatca 111480
atagcaagtc tggctgtttt aactctcaac accactgtaa gggaaaacaa gaaaatgtct 111540
agtttcccga atagctctga tactgaacca ttggctaaat ccatgaactt tattttccta 111600
ccatgaccac aatagacgac tggtctttgc agcttcggaa gaaaagagga ctaatattta 111660
gaccccagct ggctgcacat ccaaatcttc tatggaggtt aaaaacacaa aagtggccat 111720
cccactccac caccaaattt ttttttttaa ttgagatagg gtcttgctct gttgcccaca 111780
ctggagtgca gtggcacaat cacagctcaa tgcaacttca acctcccagg ctcaagccat 111840
cctcccgcct caacctctag agtagctgga actacaggcc tgcaccacca ggcccagcta 111900
atttttaatt tctttttttt ttgtagagac agggtctcgc tatgttaacc aggtttgtct 111960
caaactcctg ggctcaagtc atcctccagt ctcagcctct caaagtgctg agatgacagg 112020
tatgagaatt ttttgagagg aagtggcctt tatttttta aagaagactc ataaggattt 112080
ttgacaatca ctgatttatt gggtcactag tctgtgctaa gtactctgcc aggcatttaa 112140
catacattat ttcacttgtt ttcatgatta aattcaggca ggttcaatca cagaaaccat 112200
gcagtggaca aaagagagaa aaagttcacc atgaggagat tctaaaaacc tgccttttga 112260
cttgtctatt tttatctctt atttctcact ttgcttctcc tcccgcttgg acccttttgtc 112320
tgactgtttg aaattaagtt gcaggtgaac cctccattac ccatgtccag aacaaataga 112380
cataagcaca gaacctcact aactccccaa atttttattt ttccattttt atcaccacaa 112440
atttcttggt aacaatgtag aatttaattt tgtaattaaa acaaaaactc tcccctagga 112500
ggaatctgat gacataagga taacaccaag ttatgtgcac aaacgacaaa aaatgccaaa 112560
ctaactggaa tgatcatcct tcctgaaatt tctcttaaaa agcagagaag tagaaccaat 112620
gctgccacct agtggccagc caaacaaatc aggtagcata ctggagaaaa aggtcatagt 112680
cccgacaatc tggtttccct gcctattatc aagccaccta actccttact tttccacaaa 112740
aaaacacaac cacatatctt aagcaagccc tcctccacag tcataatcca aatacttgaa 112800
tacagcaacc aaagtctgtc ttgttaaaca cactacttct catgaaactt tcctctgcct 112860
attttaaggt aggtttgccc ggtcctatgg cccagtagag atgacacagg agaacacgga 112920
aacatccaaa atgttcactg gttcagagtg tgtacacagt aattttgatg tctgttgcct 112980
caaatacctc ctcgatcatc gcagatacat tttcccattg cagacgatca agaccacatc 113040
caatcctgaa aaagacaaaa tatctccatt gatggtaacg aaagtatcta ggaaactgct 113100

cctctctttt aagctatatc cactcaaagc ataaaaacaa ataatctagt ctgacaccct 113160
tatgggcaac catggtagga gtttggaagt caattcttgt tgtgagtcac cgaagaccat 113220
tcctagacag ctctaacatc caaaaactat cacttctgtt tgcctaataa gatactactt 113280
tccaactatt tcatgctaca tttagaaatg tgtaactgtc atgacattag agactcatta 113340
tccctctatg actactgact aaaattggct gtggatggat ggtgaaaggt tggtatttta 113400
aaaatgcact tatggtaaca gaatgttaac gaaagtaagg agaagaggaa tgaggtacag 113460
gatctgcaaa aaagaaagtc aagagggaat gctgggaaat ggtaagatag ttgcaatcca 113520
ggagtaaggt ctttgcaaca ccctggtaag aataaactca gtccataaaa ctctactact 113580
tggcaccttc caagatgtta ctctagtgat cctcaacacg cctagggaaa aaagagacct 113640
aaaattggta atttcatgtc ataatgtgat aattaagtcc ataaggaatt gtgattaaaa 113700
aaaaagtttc tgatatgtat gtacaccata aatatatcaa agaccagtgt aaaataaggg 113760
acatttgagg ccatatgcaa agtaatgtgg ggcgcaagat aaaactgcat gtatgctcag 113820
cattgactca aaactaccag ggtgacagga agaaaagagg tgaggcccat ttcctgaaaa 113880
gaaagcaaag ggactactga accctcaatg tcattcccta aattcccaat agctaaagtc 113940
taagaagtta catcagggac agatcctctg gctattaccc atactgacca aaacaagtgt 114000
gcagtataaa agggaatgat aatttacaac tttcttgacg caaagtaata ggtttgggag 114060
atgggaagtg gtccaagagg aaaaccacca ttgctcagtc ttgattcttt agcttacatt 114120
gctttaggaa taaaggccaa gcttcaagca gagggtgctg agaattcaac aaatgtagct 114180
gaatgacaat ggtcgctctc tgctaagcag gctgaggcag atgtatattt caaggtaatt 114240
gtcctgattc attcaactca agctagaaaa tggctgtgcc ttagtctaaa gccagacaac 114300
tggttcactg gtggttttac aaaattttga cttttgtcca cctttaaatc tatattttgg 114360
gttaagcttt taagttgttt gtctttgggt aagatagtaa accccaccaa tcaattaaat 114420
ctccatttag gaccatggat ttccttgcct gggcatggag aggtcagtga ctccattctt 114480
cagacaatga gacttcattg cctctaaact cttctgtaag ttttcataag ttggcttgtg 114540
cgaagccctt ttctttgtaa tctgaacaca aaggattcaa actttcatca tcccaaaatg 114600
atagccaaag aaaagtcatc acattccccc aacatcccaa taattaaaag agtaagcaca 114660
tttttataga attagtctag agcaaggatg acaaatgtca tattgccctt tccacactgt 114720
tatgggagac cttcaagaaa atccactaaa tagaggctga gaaacccaga ctctgccacg 114780
tagcaatctt tccttttcct aggaaaccca tgagattagc agatgatgcc tattgtcaat 114840
atttttaagc aaggtaggtg aagtctctgt gccacttcca agagataagc tgcatatctc 114900
taacagggaa gaaagcatac cacctgaaaa ttccctgcta aaagcctcta cttatttaga 114960
aactgtgctt gcttgctttt tgtctctcta cataaaacaa cagaaaaaac tggtagggtc 115020
ccaaagtaaa accactggaa gccacataag ctttaaggac agaattcaaa ggggctagga 115080
catctcccca ctcagtttgt catccagatc aggcttgtag tgggttagct gtaagctacc 115140
caccaccacc actaaggaag ccacaccctt tcagggacca aatgccatcc tggactgttg 115200
aagaacccca cattcaggca gtagttagga gaggagctaa gtattatttg ggactgcact 115260
tattattttt tgtttttatt cacccccttg ctatcagtgt gctatttgac atggaataag 115320
agaaaagctc ctttgggaaa tctgtctctt gagacattat tgtttttatc tcactctgcc 115380
taggaaatat agtatggcag gcattcctaa cttttgcaag tcttagaaca ggcctatggt 115440
acatgataca cgactttccc acagagctgg gatgcagcct cacatttctt tctaacccag 115500
tgctccaagt agccgccatc actggactgg agttgtcata agataggaag ctttttgaca 115560
ttcttagttg tctagaatag aacatcatga tcaacacaaa tgcagtgcag cccatctgtt 115620
cacaaatcct taaaatgtat taagaactgg ccctgaaaaa aaaaggaatt ggccccatct 115680
taccaagtaa tatatatatc gcccatctct cttcagaaca gccacttctc cagatttctt 115740
ttctaagaaa aagttattta atagtagaaa tgaaaaagaa aaccaaacac tgatctctaa 115800
agattttaaa atgtttacag atctgagttt acctcagaac tagaattttc aacactgaag 115860
aagggaatag ggaagaccta ttgtctccca caaacacttt gcttttttatc agcattccca 115920
aatactatat tccttaactt aacagctttc ttacagtcat gtttcctcac aacccatctt 115980
ttgtaccact actactttta aatatatcct catttgtcca caaactttct ctattgcctt 116040
gaaattgttt tatagtgtgt agtttttttac ttgccaaatg tgtatttact caataattat 116100
ctttttacat acaaagagct gtataaggca ttatgaggaa tacagatata taaaaaagga 116160
attaattatt acagagtttt caatccagag aagatatcat cattccaaat aactataata 116220
caaagcagta agaattgctt ttgtctaagg ctaagaatca ctgtggacac tgatgctgtt 116280
aagcctggaa tgtggtcgga gaaactgttg cagaagcttt acataggatt ctagtgcaca 116340
tttctggttt aaagtggccc gtagaaagtg atgggagggg tctgtaagga agaagaggtt 116400
tctaaattcc tctttgaaga gaaagcagaa tattggtaag taaaggatct tgaatgccaa 116460
cctatagact aagcatctca gagttatttc aagtttcaga gaagtacagt aatatcgtca 116520
agaaagtttc atgatacaag aggaagagat taaaaacctt cacaggagtt gggttttgat 116580
atggtaaacg tctaaactag aggccattct tggggaggaa aatcttaaaa acatttggtt 116640
cttaggaatc ccctctttac acgcatattt tattaaagtg taacagatta aaaggtgctc 116700
tagccagggc aaaccaggta agtggtttcc aaaactcacg ttgatttaaa agttcttgca 116760
cccctccaaa tttcttctta aagaggacag ctatcccagc gcccatgcga caatcctcac 116820
tgatacagtg ggctaaagag tctgttttcg ggcatgcaaa aaggtctcct ttcacataag 116880
tgatctaaaa aatgtgcaaa ggaaaagaca atgttttatt agatacagta aaatactaag 116940
ctatttttct gtattttgtg tcccccacga ctacctctcc cggcacccct tcctccaatc 117000
tgatttaaag ccaaaccaat tacagcatgt gtaaaaggaa agtaatggat gatccctgcc 117060
tagaattttg agccttttta aagtaaatca gctagagaga aaaaaagata atgcaatcat 117120
taatttaatt aaaaagtgtt tatgcttttg acctccatta ttacgaattt cagttcacca 117180

ataagtcaat agttgttacg cactctgctt ccttctggat cttcattaag gctgctggcc 117240
atgatactga gtcgctattt ccagaattta agtgtttctt cagctatgag aagggaaaag 117300
gaagtaaaaa tgcttaggca gccttagtat ataatattct gattgccctg tacaaccact 117360
taataggctt ttttccccaa cgtttatcga tgaatgtgag tttgttcggc ccctgggacg 117420
taatacaaaa cccttctggg gcaaagagga agaacgctta ggttcggagg ctgtctcgac 117480
ccgctctcat ttcgtgcttt cctggagcgc cccgctccgt cagcggaagc aaagcccatc 117540
cctaagacac gcctcctcct ttctccaggg ccactccgga gcaaggccga tttaggacgg 117600
tctccttttc tctgcacgac gcaaaagtat ttccccagtg ggtctggctt agaagaaaac 117660
agaagggact tggccacagt cccgttaagc cgcaaccaca gagtgtacag ggtactggcg 117720
tgctgagccc caggcgtggg gaaaggaagg cggcctctca aggaacgttc acccccccact 117780
tttttggggg gtgcgtggga gaaggaaaga gtctattgaa gcctcccatt ctctgtctcc 117840
taccctaggg cgggtcagcg aggacgcagt ctgtcctggg gtcctatggg agggtgcggg 117900
gaggctcgct caaagcccca acgtacccaa gtcacccttc acctggaaag gagtcggttg 117960
tttggaggtc cccgccccgc ggggaagggc tccggatccg accctggtag gtggggagca 118020
gcggaccagc ccaaacgcgg agccaatccc gccaaagccc ttaattgcac gcatctaaga 118080
tggccgcccc cgcccggtag cggggcggaa acgagcccct ctagcttgct agccgagccc 118140
acactctttg gcgaaggccg ccgaacttcc ggcagtaaat tccgtggttt cccgccgccg 118200
cccgcgcatg cgtaacgaaa ctgccccacg agtcgggaaa agtggcgctt gcgcattagc 118260
cgcaggggtg tgtcctagtg gccacttgga aaggggtggg cagctggcaa aggggctagt 118320
tagcgcctgc gtagtactaa gctcaaggca gcgttttgag ttgaagggtc tggcgcgtct 118380
ggaaagcgcc tgcgtattcc tttcactggg ggtggtgtca aagcgggaag gtgggcgtgg 118440
cttcagggaa cgcctgcgcg ttgctcctcc gaaggggtgg ggcgatccct gaactggagt 118500
tagtgggcgt ggcctcagag gcgcctgcgc ggaggcggtt ggagggaggc ccgattcccc 118560
tttgttcggg ttcgccattt tgctaggcag cggcagtggc ggcggcagcg gcggctggag 118620
cctctgattg ggtttcggag tccggtactg gagccaatca gcgcgggcag cgaaccgggg 118680
gagcgaggca cggtgagtgt gaggagccaa tatccagcgg cccagagccg gccccagcgc 118740
cccgattggc gggtctcgct gaccactcag gagaggccca ggcgcccgtc gagcccgggg 118800
agtcgagctg agcctagccg agccgggcgg ccagcggccc cggcccgggg cctgcgagcg 118860
cctcggggca ctcccggccg aggcctgcag gggccgcccc gcgcggggat ggcgcctcgg 118920
ggagcaggca cctcggggct ccgaccctcg cagggtgcca gggccagttg ggaatgcgtc 118980
cctgttcccc gactcaggcc caggttctca ggccccaggc ctggggccac gaatggccct 119040
acactagggg acacatgcgc gccctgggcc tcggcgattt cctcctggtc gttctggccg 119100
caaacttaaa cctgcccttg cactctccac tctccggccc ttgggacagg aagcctcccc 119160
ggggcccgcg ccccccgctc cccgctccca gcgagccggg tctgtcttat ctgcagcccc 119220
tctaggtcgg gagggaggcc tggggagggt gcgcgccgcg gccgcggggt cccgtgtgcg 119280
gctggcaacg gggctggccc gcccacgcct cggagcccta tgggcccgcc cccgctgtct 119340
ccctggtggg gagagggggc cgttagttcg cccactcccc ctgctccgcc gcgcccctcc 119400
tcccagcccg ctccgcccgg gtctccggcc cggcgccgtt accacccctt ttggctcgtc 119460
atttcctctc ttccccgccc cgttcgcagt ggcaggaccg cacacctccg tcttggagcc 119520
caaccaagcg gtctccgttt cttgtccggg ctgtaagacc agtccattcg gtgcctggaa 119580
cctcactctt agaagattga taccttgcg cattctttcc ggaggctgca caacttgctg 119640
ttcatattac taatcttatc cactgctcat tttgtgaaat ctccctccct tgggaatata 119700
gtacagtttt gggggttttt tttccctttg tttttgcctt cgcctttcta tgttactttg 119760
tgtcaggctt gacccagtcc actcatctct tggtttatgt ttttctgata cactttcaag 119820
tcctgtgtta acgttttctc agcagatgtt tagaaactaa cagtgttgtg gggttttcct 119880
tagggtgaga ggttgctgtt ggcaaccaat tatccagcag ttagtatatg ccaggtataa 119940
tccgtgtgtt agggagggag tacgtagagg tcaataagaa ctgtgcctac ctgatggaaa 120000
ttgacaggtg aacaggtagt taatacctaa cggttagtgc tataaagggg ccaagttcag 120060
ttgctgtgaa gtatccatgc gtgagctagc ctccgtgaaa ggcttatcac caccgcactt 120120
ttgactggcc ttgaagaatg atggtaattc ttccacagga aagatggaag agcttgctcg 120180
aagagaagaa aagcatgtgc agaggaatca aattacactg ttggaggcag gaagatggga 120240
tagggaagtg ggcagtagtt gtgatagttt agggggggaaa gcccagttgg taaaatactt 120300
gtatatcttg ctaaggaata ttttggaaac agttattatt ttgtatggag gttcaagtag 120360
aagggatcta gagctatatt ttttcctaag attgaaaaaa cgagtttctg acttgtttat 120420
gggttctgcc ccgtgatagt ggctgagttc tttggggatg aagaggagac ttgtcctagg 120480
actctgaaaa ttatttttac tcatgtgaat catctagtgc attccctggc acataaaggt 120540
cttaagtatc tggtgcccat ttctaaattc acatttaatg ttatacaact aataggtttc 120600
agaaaactcg tattccagtg ctctttcatt actaaaactt cggggacagg ttttattttc 120660
acttttagg gtgagttttt cattgttgct taagtgattt tcttaattca tttgattgtc 120720
acgttatccg cattagcaga tgagatgata gagcttaagt agtctaaaaa acatgtatat 120780
ttgcctttgg aacgtttttt tgtttgtttt tggatacagg gctttcctct gtcatccagg 120840
ctggagtaca gtggcgcaat cgtagctcac taacctggaa ctcctgggct caagccatcc 120900
tcccttcttg ttctcccaaa acgttgggat tacaggcatg agccactgcg tcctgacctg 120960
aaatagatgt tttaacctta gtatttaaaa ataggtatgt tctggtcact tcaaaatcac 121020
taaatacttt tgcttggcat ctttctaaaa ggcattataa tctggtaact tttttgctaa 121080
ataccttaca agcttccacc agtctgcaga agaatttctt tgtctgacat tttgagagaa 121140
agtagtgtgg ccccaagctt tttttcctgt ttagtccact gttcacatgc tgaaatattt 121200
ctgttcttgt ttttatgctc tcttgatttg tagtacttca ccttcctcca catcatcaca 121260

tagctaaatc tttctcacac ttaagaccag ttcatcctgc aggcctctga tagcaaagaa 121320
aaaaaaagtt caagtagtac ctttttttt ttaagccttg ttgatttatc cccagctgga 121380
acaaatctct gtcctccaaa ttcccatatc actttatctc ttaggattcc agtataggtt 121440
tttagtccat tactaaactt aaagactctt tgaagtttga atcttcgtca gagatttctt 121500
tttatttta aaaccttcag aacagtgtct ggcacatggt acataattag tggagagaag 121560
tgcattagaa agctccaatc cagaaatctg taggatgatg gggaagctgg acagcccttt 121620
gttgtagtct agtctttcat caagcgtcta tcaggaccca cttgttgagt tgtgaaagaa 121680
attgagtgag ccaatgctgg gaatttttaa ataatagaat agaaaatatc tgccaggcat 121740
gatgatggct cacgactgta atcccagcac tttgggaagc cgaagtggga gaatcctttg 121800
agctcaggag tttgagacca gcctgggtag catagggaga ccccctctct taaaagaaaa 121860
aaaagaatag aaaataccaa agtgcatctt gtgttgtata aaggtaaatg ctgtttcatg 121920
aaactttcat ttcagttaca tgctttatac atgtgtgcac tgagttgtga taatgaaatg 121980
tgtttcttac taagggttgt ggtcaaaaaa gttaaaaagc tactgttcta ggctttgcct 122040
ggtagtgatt atcaactgtg ataatcctat ggcttttcat atgcttacac tagttgagtt 122100
tctgaagagg ttttagcttt ggagtttgtg taggtccaca tagaatgggt tcctagtaag 122160
tggttggcta agtctcagct tttgcacctt ggaatagtgg ggcaaagaga attgcactga 122220
gaagagaatg cactaggaag agaattttca tgctagccag aataaacact tattatttgt 122280
ttctctctct ttgaggaaaa accattcaaa actttgtgtt aagagcaaga gctagacaga 122340
ctaaatctgg cttagtttgt cataatcttg ggcaaagagg cactttggga aagactatcg 122400
aattgtattg cagtcttgct aactgaagct cacagtagta ggaacatatg actttactga 122460
agccagttgc ttatagcatt aaccattaac agtatcaata tcatgataca ggctaaatca 122520
ctctgtcatt aatgtgagag agaattgctg ctagatttga agctgctctt caaatcttga 122580
tactcttcaa agtataaatt taaatattgc taaattggtt catttgtatt accagaataa 122640
actagttaag aagaaaatct gtacgttaca tatattagtc attatgtgct tcaagttata 122700
tttagtcttg taaagatgta aacttctgga tattagtcaa ggaaaaaatc tcatataaga 122760
aggaaatttg gagttgggga ggcgttgaaa cctaaaagac attcctttca tgatccttat 122820
tttttaaaat caatttattg agagatactt tagaaacaaa gtataataat tttaaatgtg 122880
tattttgatg agttttgaca aatttgtaca cctgtgcaac tgctaccaca atgaagatat 122940
aaaacatttt catcacccta caatgttcct aaggctccat gccagtcaac ctccctcttt 123000
cctgtctccc tgtattctcc actcccaagg aaccactgat ccattttctg tctctagatt 123060
actgatgtct tttggagatt ttatataaat ggaatcatat atattcgttt acatcataac 123120
cttaatttta ttagtttata gccataaatg tattgtgtat tagagacaag atagaattta 123180
gggaagcctg ttagtgcccc taacagactc acagtctggc tgaaaacctg attttctatt 123240
ctatacccag aatctctgag gagcagactt agtcaaccaa ttccaaagag actggtgtaa 123300
aaatcagaaa accggtttgt catgttgctg attatatttg ctccctgttg gccaatctat 123360
atgtaaatcc aaattatagc tagaaattta cctagcgagc attccattag atcaagggca 123420
gtgctttgga gaaccatatg gccacaagtc ctcttgctgt gatgacatag cctgttattt 123480
atggctcata gattcttatg ttgtatccat tttggttatg agtaatgggg ttgattaatt 123540
tttattttga ttaaattttg ttatattttt cctaacattc caacattcat ttgggaaata 123600
agaatttctc aaaattctta ttctagaaat aagaattttc aagtgtgcag tgaaatcaaa 123660
ggaatttgaa aataaacacc tgtatacctg ccagttaggg tctattaaca tcttactata 123720
attgccttac cagatatttc tccacccatt catccatttt ttgatgcatt tcaaagtaaa 123780
ttttagatat caatacactt ctttctaagt acttggacat atagttgcac atattttggt 123840
ttcttctttc acactgtatt gagacacctt gcaaatgatt aattccacca gcatgtgtgg 123900
atttatggag agtggtactg tactttgcca cgataatgag cagctcagtt aggtcacgtc 123960
attttattat tcagatgttg gaatttatga gggcctagtg aaaaatcaga gagaaagacc 124020
tatctacatt tttgtttata tatctgtcct ccctcccata tttccaagat gaattgccga 124080
ttgctaactt atatcatttt aatttttaa tgaagtcttt attaaaggtt ctcagatatc 124140
attcagttta tctaattgta tccttatttt taaaagtgga tcttcaactc ttaaagtcta 124200
tgagaagggt aaattttgcc taccatatgt agtggacctg agtaacatgt ttggtgggaa 124260
gcaattacgt gttacaactt aaagaagctt tattctctaa agtatatgtg caaacctgaa 124320
aatcagtgtt aggtatgcct tgtatcaaag tgatgtagct taacgagtat ctcttaggtg 124380
caagtattgc tctgacagta ttgaaaggta aggttgccag tatactgaaa gcattttaga 124440
aacgtgaaaa tagcattatg ttgttatgat tgtgccatgt aatcccagtt aaaaatgata 124500
ctgaatataa gcatttccta ttctcctatc ctgttttctt gcaaataaag tacagtgata 124560
aattatccag gttaattgtc tggtaaggcc tttattgaca atctcacttt agtttctttc 124620
cccacctttc taacaggagt gtacctcaca gccttctagg atctccagag tggacaggaa 124680
tctcacttgg agggaccatg gagcagtata cagcaaacag caatagttcg acagagcaga 124740
ttgttgtcca ggcaggacag attcagcagc aggtatggaa gcaaaactgc tttaaacatt 124800
acagcaatga aactgataac agcaccactc aattggttgg tctattgccc tggggaatta 124860
tttgaaagat accagatctt gtgagatatt gggtctgatg gcttgtgctg aaatgccatg 124920
tctagcccat gaccacttag aatctactct tcatgggtgc ctggttatag taaattgcct 124980
cttttatctc attttaagta aaaacatcta gtctggtttt cagatggaaa tttggacttt 125040
aaaatttttc tggattctat ttggtctttt tctcttcttg tttgagctaa cttgtgattt 125100
agtaagtctt tggccacaac agacaaacca acatagcttc caataaatct tctgtttttt 125160
gatttggtct gccacatttt ttattcagaa aagctctggt ttaacattag gataatattt 125220
agacagccat tcttatggat aagacatact agaaaggaat tccctgctgc tggtttattc 125280
ctaattaata gattgctttc ttgaatttat acacaggtta cattttctga tgctttatgc 125340

seqlist.txt

ttgggtttat tatagtaaaa tttcactttt ttccccaccc cagaagaaaa aaatgtatta 125400
tgtttctatt tgaccttagg ccaagattga tattttggaa atactttgtt ttcaaaatgg 125460
aatttagcta atatagaaaa gtagtaggga agggaaaggt agtattgatg atgagttttt 125520
cccgtctaat gatcaaagac gaactcccct gatagctttc ccttccatac agctgctgtg 125580
gctctggcag tttccttcaa ctgccttttt agaggaaggg attccacaaa gggccctcca 125640
ttcacaccag tgccctggag ggtgggtttt tattctttca gaatttgcca ttagtggatg 125700
taaaaataag gttgaatcat tgaaaacatg gctcttaaag cagtccagtt gggtagaaat 125760
aatcttagtt ttgaagctgg gcatggtgct gcatgcctgt aatcccagct actctggagg 125820
ctgagacagg aaggttggct taagcccagg aattcaagac cagcctgggc aaaacagcaa 125880
gaccccatct caaaataagt acataaataa agtttaaaaa aaaaagaatc ttagttttgg 125940
gacatgagag cattgacgtc atgaagatga tttcggttca tagtgattaa ttactcctcc 126000
tttcttggtg attgcattta agcccagaat tttttatggt agtttcaggg ctattaaaac 126060
ctaatcattt ttttcttgtg aactcatctg aggagataaa aagggcatta aacaattgtg 126120
taagtagaag tgtcagattc ctgtttctgg agggaaagat tgcattacaa atctttgtgt 126180
taatgatgac aactgttttg agtttttgag tcaaattttt gaggtccact ctggagacaa 126240
agggctaata tctttaatcc tactaccttc aacaaaacag cttcaatata gggagtctgt 126300
acattttgaa agtccttcag gcttccgtct ctctcctcca agaggtaagg tgatctgtgt 126360
cttgaactac acatttcctt cctgacatat ttcaagctct tcctgttcct gttctcagca 126420
gcagggtggt gtcactgctg tgcagttgca gactgaggcc caggtggcat ccgcctcagg 126480
ccagcaagtc cagaccctcc aggtagtggt accctctctg attctctgtg agcactgcat 126540
gaacttctcc tctcctcatg tctggtgctg tttgtgttag gatctccagt aggaatggca 126600
aagtcagttg catgtctttg atgctgctaa cttgtctttg aggcttataa gatgccagtt 126660
tcctaatatt tcatgccaag tcatatagag accccgtatc aactttctga gaattggatt 126720
tgactagcat gtttctttga gaatgcctgg aaaagaaatg gtataagtga caggaagaaa 126780
ttcttataag tgacattaga atttattcag ggctcggccg ggcgcggtgg ctcacgcctg 126840
taatcccagc actttgggag gccgaggcag gcggatcacg aggtcaggag atcgagacca 126900
tcctggcaaa catggtgaaa ccctgtctct actaaaaata caaaaaaatt agccgggcat 126960
ggtggcgggc acctgtagtc ccagctactt gggaggctgg agcaggagaa tggcgtgaac 127020
ccaggaggca gagcttgcag tgagcagaga ttgcgccact gcactccagc ctgggtgaca 127080
gagcgagact ccgtctcaaa aaaaaaaaaa agaatttatt cagggctcac actctgatcc 127140
aattaattgc atggtaaaaa ttttgtgtat ttgtgttaca atggagaagg aaatatatac 127200
atatacagac acacataaac taggctaggc tgtgctttat ttttattcaa ggggcaactc 127260
aactgaaaaa taatcattgc acttggcaag gtttatctaa gcactgaatc ttgttaatct 127320
cttgttaact gctattgttt ccactacctt tcctggggga atagtgacct gtcttattac 127380
tagatctgca aagattaccc cagatacctc ttggttaggc agaagcagga tgtgctttct 127440
gtaagtctta ggtgttaaag ccactgtgat aattcttggt taatcaatac agttctttag 127500
catcgtgtat ggctaagtat cctaaattgg gttctaattt ggccagttcc tataaaacac 127560
aggagtagca gcactagtct actctgtgta tgtaggttac ttttattaaa ataactctat 127620
ttttgagaaa ttggcaagat ttgggtaccc tacttttcc ctccattgaa ttagaaatga 127680
ttcaaagtag aatctagaat gtagaactgg catctcactt tattgctagt gctgctaagc 127740
atccagcaga taactacctc ttattgtcat cactttatcc tttcaatccc acccctaccc 127800
ctgccaccaa tagtgtttgg taatgatgta cagccaactt tgaacataaa ttaagccgaa 127860
agaaactgag cttgtaggca ttccaaaatt gtgttcaaat ctcacagtcc aacagcttgt 127920
taatgttttt catgcttgct tcatcttact catatataaa acagtatttt ggattgtcat 127980
taacccccttg tggaatagga atgtaacatg ctcttaactg tatggcttct tgtttgatgc 128040
atgtgtcttt gtaacatttt tctgttgtaa atacagtgag ctctttggag tctcaaatca 128100
tttatcatgt gcacgaatag cacatcaatt ggggaggaaa ttaagatgat gaatagatag 128160
aaaattatta atagctgtat cttaaaactt gtgtttccta cttacataga ttttatttaa 128220
aagaagtgga aacactttat ggaaataata gaaacctttc ctctagggat ctgattattt 128280
tgggagaatt ttaaatagtt attttggtta ttcttgctat atgtattctg agaaatcttt 128340
cttgatacag aatatgcaag catttggtgt agcaaagggg atttgatttg gaatggggaa 128400
ataagggaaa gagatagcat gagagagtca ggctgtaaag tccttaaaaa agtaaagtaa 128460
aggttctcaa tggacagttt aacaaaactt aggatttcaa tgttcctggt gattctaata 128520
cattagtggt ggtggcagtg gcggcggtgg tggtggtgat tgtaggagga ccttactatc 128580
taacctactc atctaggaca gaatgatctg ttaactaatt gctgttactt gcacatactt 128640
tcattaagtg tgaatatttc agtcatgaat attctgttct aagtaatttc tgtcaaagat 128700
agagtctgaa aatgaaaatt ttggactatt ccatggatca ttacagttta cttctaaagc 128760
acttttaaag tgcttccaga aagcattcta ttaggtattt ttgtattggg acttaagatg 128820
tgacagagca cttgtagtga cctggctcct acagtagtct gtttactcat aggagcttga 128880
aatttgtaca cttgactgct ctgtgtaatt tcaatatttg ttgttgcttc tgataaagct 128940
aaaataacca tgtggatatt atagaggcca gtgaggaatt ccaccatgga gactgcaaac 129000
tgaccagaaa gtgcttttaa gaaatcttta gtagtgagtt taaacaacaa acatatctag 129060
aattcacaga gtaaaatgag caggataaag gtatacattt gacatttcat tttagcttga 129120
gagactgtag ggaaaaaagg gtcatcctct acataagctt ccagagctgc ttgctaccca 129180
gcctcctaga gtcattgctg ggtacagttt gatttacctt cttcacttta tttagaattt 129240
gtactcaacc accatcacca ccatcacctt tccctctcat tgccttctct ccagccttca 129300
ctacagacca ttcctggatt ggtttaaaca ggcaactaac cttgccatta tgattaaatg 129360
tttgtcatgg atttagcccg tgtttggtga caaatgcctt atatctattg agacttctca 129420

aagactctgg atattctcca ttatgtctga ccttaaagta ttgagcttgg catttagtaa 129480
caggattcat agatatttaa agataacttg aggacttgag acatatattt tcttagtctt 129540
ttctaccttt tccttttcta gcaaggcagc agaatagttc cagtgattgt cttttggtaa 129600
aaaccatttt gtgtcttatg ttatttcatt gttcttattt tatttcattc taggtccaag 129660
ggcagccatt aatggtgcag gtcagtggag gccagctaat cacatcaact ggccaaccca 129720
tcatggtcca ggctgtccct ggtggacaag gtcaaaccat catgcaagta cctgtttctg 129780
gaacacaggg tttgcagcaa gtgagtaata tttaaaaata ttgagcagta tatcagagga 129840
gaggtttcaa agaatagatt attacaacct atttgataat tgatattgca tttaactgct 129900
tcctaaccca cattttgcat tcagttgatt ttctgccttt atagtaccag tgatataaac 129960
tagaactatg cagaaattgg acagctccag taatgactaa gatattaggc atgatcttga 130020
attgctgtaa agtatatgaa gaggttagaa tctagtttat agtatatttt attttaaaag 130080
aaacaaaaat gagtatttag aaagttagaa aaataacaaa acgagcaaaa agtgggtcca 130140
aattaattaa gtagaaaact gacgtataga aaggataaat aaaatctaga ttgtttaagc 130200
agaccaataa aacaggtaaa tccagttgaa acactgattg agaaacagaa aacaaaagta 130260
agcaaagatg tagaagagat taaaggaagg ccaggcgcag tggctcatgc ctgtgatccc 130320
agcacttggg gaggccaagg caggtggatc acttgaggcc aggagttcaa gaccagcctg 130380
gccaacatga caaaacccca tctctactaa aaataaaaaa ttagccgggc gtggtggcac 130440
gcacctgtaa tcccagctac ttgggggttt gaggcataag atatcttgaa cccaggaggc 130500
ggaggttgca gtaagccaag attgtgccac tgcactccag gctgggcacc agagcaagat 130560
tctgtctcaa aaaaaaagaa gagattaaca gaaatatgta gaaatgttac atacaactct 130620
gtggcatcat attttaaaat tagatatttc tcatcgagat ggcaaaaaaa aacaaaaagt 130680
cattatatcc actgttagga tggatgtgga gaaaaagaat taatcattat ttttggtaat 130740
ttaaaactgt agagttattt tggaaaggca cctcactatc tgttaaatac aatgaatatt 130800
tgagctagca gtcccacttc tgagaatctg tcctatagga agaaaagcat caatagtagg 130860
gggaaattac aaagacactt ttcatagcat tgtactagca aaaaataaaa ttgcaatctg 130920
agtgtccatt aataagaata aggaaatggt tggaataaat cataatatat tcatagggaa 130980
tattgcatca tcattaaaag aaatgaactg ttgacttggg gtgggttaat attgaaatat 131040
ttttagtgga aataatttgc agagaaatag tgtgtgatct catctttgta attcataacc 131100
aacccccat gagtatatgt ttatagtcat ggaaaagaga gtatgagata actattagtt 131160
actctatcta aatgtttata ttgtttcaac agttacagca gtcatattaa tgtcttagtt 131220
ttctggagga atttaagttg aaaaaagcag ccatgatccc actgctcata aatcaaactt 131280
gtacttttg tgtattcttt tgtgttttta tgcataattt ttgggcataa ttgtaccatg 131340
catgtggggt tgtgttttca ttttttttt ttaattcttt cataatgttc agtcaacttg 131400
atgaatcaga atttctaatt tataaaatat agttaaggat tttggttttc atttgccttt 131460
gtaggtaaac atttgggcac gatagtttta tttttcaact gaattctcag gataatttct 131520
ttggattggg gattgcttgg gtaaagggta agagtatatt tgagcccact ggcatatttt 131580
tgccaagata gaattgtact tgggattaaa aatagttttc acatttctct ttgcataaat 131640
atatgaggct ttaaatatct tttcagcatg tgctttcctt gattccctat tgctatatcc 131700
tttctgttct tctctctttg cttcctctcc agtccccctt gctgcgcctt ctccactgtt 131760
gagtagagac aatgtggtat agttaggaac agtatactgt gagtgtagtg gtccaagctt 131820
tcattaccag gtctgccatt aaataagcat tctgatcttg gccaagttat ttaattgtcg 131880
gtttgctcat ccaaaaataa aatttatatg agatgatatc tagggttcat tctagctcta 131940
aattctgtga tttttatggg gttttatttt gctataagga accttcaaat agttatttcc 132000
ctgcttccaa gtagggctat aactaaccaa gctgaaaaaa atatattctg ttacgtaaat 132060
aaagctctct aggtgagatt ccatagcctc ccttacaata cttaaggctt taatcccctt 132120
tgtataggag tttttttttct cattagtgtt gagtagccat tttttaaaga agactacttc 132180
ttaacctttt ttgaattgta ttctctattt tagaatccta gtaaagcttg caccctctaa 132240
gaaaaagtag agatgtccag tctcatgaaa aattctgcat ataattttag attaaaatcc 132300
ttggcctgag aaagatactg gaaccagaga gacagccaag aaatagatag aagaatattg 132360
gaagttggca tataataaaa gtggtataaa catatcaatg aagaaatggc tgaagaatga 132420
tacagaaaag aaactgattt ctaattcata ctgtatttta aaaaatattt gctaggtgga 132480
ttaaagatct aaatgtagaa aagtaaactt ggaaaattca aaagaaaata taagaatttt 132540
tatgctatag agaaggatat ttttaaaaac aaattgacta aaacataata tgcattgaaa 132600
tacatcaaat aaaagtaaac aaggtgaaaa cttggaaaag atatttttaa tacatacaac 132660
cgagtttgta ttcagaatat gtataaataa cgtttatgta tttatacaaa aataggaaaa 132720
tgggcgaaga atatgaatag atggaagagg aaatcctaac agccaatata aacttagaaa 132780
tgaagttggt tcacataacc agataaattt gtttacttat ttatttgcca atactttctg 132840
aatgccaatt atgagctgag tatttggaaa aaataattca gaagacctag gcaatctatc 132900
ccctaacaaa gtaggatcca tgaatgtctc taagacatgg aacccattga cctgtttttt 132960
tcaccttcct tccatcagta gtccttttc ctatcagctg gtagactttg tgataactta 133020
aggttctagg catgttcttc tttccagacc aaggtggtcc caagttgaaa ttatggatgg 133080
aaagtgacct ggctataaaa atctatcttt ctgaaagtat cctccttcca gactgccatc 133140
tatgttgaag caatgctcaa ataaaaaaag tttgttgatg gaattaatgg tcaaagaagc 133200
aaagagaagg ttacttagta ctagccatgt attctggctt ttaagtttgg gaggtattct 133260
tgaatataaa atacaagaca ttttgagcta tggggctctc ctcactgctt tctcttttgc 133320
acttaaaaaa aaaagtgttc actagttata tgaaaatagg attttgtaca cccaacattt 133380
aaagggttgt attgcagttt tttagttcca aaatttagag aaatattttt caagcttctt 133440
gtcaggtttc tgataacact cctaataaag tggctatagc cattaaaaaa aagaaagaag 133500

atagatttgg atagcacacg atcccttgct ttccataatt gctttataag gtttagctat 133560
ccaatcctag gaccaaatag gagatacaaa ttaaatcaac aaaaatttga caaacattaa 133620
tgacagtagt gagtattggt aattggaaac taataggagg aatataatct gtcacattgc 133680
cttaattatc tattaccata taacaaatta tcctagaagt tagcagctta aaacaacaaa 133740
catttggccg gtgcggtggc ccacacctgt aatcccagca ctttgggtgg ccgaggcggg 133800
tggatcacaa ggtcaggaga tcgagaccat cctggttaac acagtgaaac cccgtctcta 133860
ctaaaaagac aaaaaaaaaa ttaagccagg cgtgatggcg gacgcctgta gtcccagcta 133920
ctcgggaggc tgaggcagga gaatggcatg aacccaggag gcggagcttg cagtgagcca 133980
agatcacacc actgcactcc agcctgagcc acagagcgac actccgtctc caaaaaaaaa 134040
aaaaaaaaaa aaatttattt tatagtttct gtgagttagg aatcctgaca cagctgtgtt 134100
ggattctttc aaggtcctct caaggccctt atcaaggtgt tgtcctgggc tgcagtcaca 134160
tttgactaga gtagaataca ttttgggttt tttctttgtt tgtttttttg agacagttac 134220
tcgctctgtt gcctaggctg gaatgcagtg gtgcggatct tggctcactg caacctctgc 134280
ctcccaggct caaatgatcc tcccacctca gttccccaag tagctgggac cacaggcatg 134340
tcctaccatg cctggataat ttttgtattt ttcagtagat acagggtttt gccatgttgc 134400
ccaggctggt ctcgaactcc tgacctaatc tgctcgcctc agcctcctga agtgctggga 134460
ttatgggcat aagccattgt acccggcttt cagcattttt aatatatata gtatttcctc 134520
tgtaaaaaag tacttcatca ttcaccaaaa tggcaagatt aaaaaataat aataaagcac 134580
tttagagtgt attttatttt tttatttttt tgagacggaa tctcgctctg tcgcccaggc 134640
tggagtgcag tggcgtgatc tcggctcact gcaacctccg cctccggttc aagtgatttt 134700
ccggcctcag tctcccaagt agctgggatt acaggcatgc accaccatgc ccggctaatc 134760
tttgtatttt tagtagagac agggtttcat catgttggcc aggctggtct cgaactcctg 134820
acctcaagtg atccacccac ctcggccttc caaagtgcaa ggattacagg cgtgagccac 134880
cacacccagc ccagagtgta ttttaaatat gcatgctttt caatatatat aatcatacca 134940
ctgctatctt tcataaaaac cgacattgat ttgttaatat caggtatcca gacagtgtcg 135000
aaattcccta tttgtttcat aaatggaaaa taagttgtgt ctacttcata atggagggca 135060
gagcaggact tctttttcc tcttcagaac attttctgct ttctagagaa atgtggataa 135120
ctctcgggga ccaaaggaga ccagtgtcag tagagtacaa tccttttttt atgttctttt 135180
ctgcagatac agttggtccc acctggacag atccagatcc agggtggaca ggctgtgcag 135240
gtgcagggcc agcagggcca gacccagcag atcatcatcc agcagcccca gacggctgtc 135300
actgctggcc agactcaggt aattccacta gctctgtcac acaggagcaa aactgatttg 135360
gaagagtcag ataactgagt cagatatttc atgtatagca tgtatagtag aaaaggggat 135420
gaaaaccata aaaaaatata tttttggccg ggcgcggtgg ctcatgcctg taatcccagc 135480
actttgagag gccgaggcaa gctgatcaca aggtcaagag atcaagaaca tcctggccaa 135540
catggtgaag ccccgtcaaa atacaaaaat taggtgggca tggtggcgca tgcctgtaat 135600
cccagctact cgggaggctg aggcagagaa tcgcttgaac ccaggaggcg gaggttgcag 135660
tgagctgaga ttgcgccact gcactgcact ccagcctggc gacagagtga gactctgtct 135720
caaaaaaata attttttttt ttaaggacta catcgttctt tgttagtatc tttgggatct 135780
gttgaattgt gtcattactt atttcctcca gacacagcag cagattgctg tccagggaca 135840
gcaagtggca cagactgctg aagggcagac catcgtctat caaccagtta atgcagatgg 135900
caccattctc cagcaaggta agtgtaccca taagcttccc taggactttt tggggcaact 135960
tttttgtccc ttagacaact gacatcttta gaatttgagt ggtgaacttg acactacata 136020
ttttttggac aaaaaaaaaa aagatttcct ctagctctcc attgattgtt ggtttcttgt 136080
caccatctgt gaccaacagt gattccatgt gtagcagttt ctatagtggt tgctaatcta 136140
gggattgtgt aagcttttag ggaagaagtg tttctaaaca gaagaataga aatagggagt 136200
tcattggtaa agagagaaat agatcaaaaa tcaagttggc tttagagtgc tattgctgct 136260
tatgtttttt tctgggtcat tccattactt taaatgacta ttatgtatac agcactttta 136320
ctaagaaggg tcctcaaaga gcctctagtc tagtaagaaa gacgtgaaca aataaataca 136380
atgcagggcc ctcatggaag tatgttctag gaatagataa cataaataat agatgtttgg 136440
tctgggagga ggagtgcaga aactgaactt gaaggctttt ggaagcacct gttagtcaaa 136500
tagttaaatc aaaaaaggac atctttgtta gattccatga ctttgtgatt gcaaatttgc 136560
aatatacagg atccagagag tgcactaact gtgtgctctt gtattactcc agggaggccc 136620
tgaactggat tgagcccagg caagagctca aacagaatgg tgaacaaatc ctcaagtgct 136680
gctattgata gtctggggac ttggaatgct tggtttaatt ttaagtttta atactacaac 136740
tgactcattg tcagtttgag ataaacaaag tataagtttt aaaatctctg tcctgaagca 136800
gattgctcat tatgtacaag agcagtaggt atagctgtag tcagactgac ctgtagaaga 136860
ggaggcctcc aaacctttc acctttgaa aactgctaag gatagagtta ctcaaaactg 136920
ggacctagac agttaataga atttcaaaga ttgtgattac ttagattata tatagcacac 136980
cacagtggga gagtactttt tctccccttg tgttttcag tgtgttttgc caggatcggt 137040
gagtgtatac cagatagaag agggactaac tatgttccct tctttctgtt ctgtgtgcct 137100
gtttttgtt tgttttatgt tttgttttct taaagttaca gtccctgttt caggcatgat 137160
cactatccca gcagccagtt tggcaggagc acagattgtt caaacaggag ccaataccaa 137220
cacaaccagc agtgggcaag ggactgtcac tgtgacacta ccagtggcag gcaatgtggt 137280
caattcagga gggatggtca tggtaagaaa atgtattttt cagctttgtc tttgaaattt 137340
tcttgaacat gcaacttgat gcctcctaaa atttattatg ttgacctctt gggattgaga 137400
tcgatcctta aggcactgtc ggtaatctac tttgacaata acattatgac aaaccataat 137460
tcattctgag cacctactat gtgccaggga ctattcacca gggactattc tagatgctgg 137520
agataaagca atggataaat agtgatttta tggaattctt ttcagaattc aaataacgaa 137580

gggaattata tactaatctt tgagaagtgg aaagtagtat tgcccatgat ggacaaaata 137640
agaaataagc taaaaattag aaagattgta attgatagag aaaccaaaaa aaaagtgtca 137700
tgtaaatgta ttgggaagat aggaagattt gggtggtgta actgaaagct aaatcctcat 137760
atgtcaaaat aggatgttaa aatgcataaa ttaagaatga gtaacagaag tctgcacaga 137820
ggtggaggaa gctatgaaaa gaaacagaac caaccctggc tcagtggcat gcacctgtag 137880
tcctagctac ttgggaggct aatccaggag gatggcttaa gtccaggagt ttgagctcag 137940
cctgggcaat gtagagagac ctcgtttcta cgaattgaat gaaaaataaa taatttttat 138000
aaaagattca atacagttat tcaaagcggt tgtatttggg aaagagctgt ggggtacagg 138060
actctgttac ttgtttttac ctacatttag tacagtgttt tggtgttttt taagaaaaat 138120
taggattgaa ttataagtta actattattt ttataaatat aggcatttag tagcacttgg 138180
tctatctatt tttgtgctgt ttttttgtct tatgactact gttcctgacc attagatggc 138240
agcagaaata tctagagcca tgggtggaca tgaattaggg catggttata tagtttctca 138300
gagtggcacc tgaatctcct atgacacagt catctggggt gtttgtttaa agtgcagatc 138360
tttagtataa atttctccag ggatccgcat ttacccaagt accctataaa aattactttt 138420
tgtggcattt acaaaaaaaa tggatgaaga ggaaccaaga aactgtttct atgtccatac 138480
ttcatgccac caataagctc tggtttcctg ttcacacaga tggttcctgg ggctggctct 138540
gtgcctgcta tccaaagaat ccctctacct ggagcagaga tgcttgaaga agagcctctc 138600
tacgtgaatg ccaaacaata ccaccgtatt cttaagagga ggcaagcccg agctaaacta 138660
gaggcagaag ggaaaattcc aaaggagaga agggtatgta taacattggg aaggatatag 138720
gaaaggagaa tagcagggtt ctacttttga aattatcttt tatatggctt gttttctcac 138780
gtaccttcca aacaattgac gttagatact tgttgtctct tttgtaagag ttagcatttg 138840
ttattactaa tatgcagctg cagttataat aacgaaaaca aacagtggct taaataagat 138900
gttattcctt ttcatacata aaagtagtcc agagataaat tatcctggac tggtagcaca 138960
ttttcacagt tctcaagacc tgtttcactg ctttaatatt gctagtgtgc tgttcatggt 139020
ccaagattcc tgcttaggct ccagcctagg aagaaaggga acaagaaagg tacccttttct 139080
ttttttttttt tttcctgaga ctcagtcttg ctctgtcatc caggccggag tgcagtggca 139140
caatctcagc tcactgcaac ctgcaccttc catgttcaag tgattctcct gcctcagcct 139200
cctgagtagc tgggattaca ggtgtgcgcc accacgccca gcttatttttt gtgtttttag 139260
tagagacggg gtttcaccat gttggccagg ctggtctcga actcctgacc tcaggtgatc 139320
cacctgcctg ggcctcccaa agtgccggga ttataggcgt gagccaccat acccggccag 139380
gtacccttttc tttcaaggaa actttgaaga agttgtgtac cttccactag ccggaattta 139440
gttacctgat cacacctaac atgcagataa ggctaggaaa gtccagcctg gtgtggtggc 139500
aaatgcctgt agtcctactt ggaaggcaga ggcaggagga tcacatgagc cgaggaattc 139560
aaggctgcag tgattcatga tcatgccact gcagtccaac agcaagggtg tcagagtgaa 139620
accctgtttc tagaaaataa taataataaa ctttaatgct aggaaagtct ttttactgaa 139680
cactcatttg ctcaaacgaa atttggcctg ttattaaagc agaggaaagt gtatatattg 139740
tgaagtgtag gtggtagtct gttatttttt ttaaaaaaaa ttcatactat aagcattcac 139800
agtcttacag tagttatata tggttagcta tattacttac taggtgtttt ctccaaagct 139860
tccatcgtca ttctaagtca taattgtccc ttgtgacttt gatcccagct gtcttaaact 139920
ttggagaatg gaatttgtgc actagataac tgtgctggtt ctggatagta ttaatagtta 139980
aatggtttta tttctcgttt tagaaatacc tgcatgagtc tcggcaccgt catgccatgg 140040
cacggaagcg tggtgaaggt ggacgatttt tctctccaaa ggaaaaggat agtccccata 140100
tgcaggtagg aagacatata cattttattc ttctctttat taccttgtat tgacttgagt 140160
tgaagccttc agcagtgtcc tcttgctatt ttcctactct gggactactc acattctcta 140220
aactggatgc aatcttatgt ctctttagat tatcttttat cttaaaacca ctaggccaga 140280
cttggtggct catgcctgta atcccaacac tttgggaggc tgaggtggga agcccaggat 140340
ttcaagacca gcctgggcaa catggcaaaa ctccatctct acaaaaaaat acaaaaacta 140400
gccaggcctg gtgatgcatg cctgtagtcc cagctacttg gagggttgag atgctcttcg 140460
tctttgtcac ttattactat tcattctttc ttgaaaatca cacttttctt aattttcaag 140520
gaacaagttt tatttttatt gaacaggttt tattacccca tcacaaatat aatttgaatg 140580
tttacttttt tcccttctaa ctgatgtgag cctggtctaa tcctctcttc tttggcttag 140640
atttataaaa tagctgctta atttggtttc ccttcttcca cttttgttcc cctctagcct 140700
actctccaca tcctagtgtg atctttttaa aatgtttatc ctatcaagtc cctgttctgc 140760
tcaagctcct tcaacccctа ccctttccca tttgcactta gactgacatc caaagtgctt 140820
actactatgc ccagcaaagc cttacatgct ccagctcctg tctacctcta actgcatttc 140880
tacttcttgg tctctatgct gctgtttact gttcattggt ctacttcctg ccacgggtct 140940
ttgtccttag aattttcagt ctgtatgccc tttatctttt tcatgcatgt ctatctccct 141000
atctgttagg tctgggttta attaaatacc ctatctagaa tagatctctt ctctctcagt 141060
atgttcttac aacatctttt ctttttttgg aggcagtggt gtgattatgg ctcactttag 141120
tcttgacctc ccagctcaag tgatcctccc actttaggct cccgagtagc tgggactata 141180
gccacgcacc accatgccca gctaattttt aaatttttttg tagaaatgga gtctcacttt 141240
gttgcccagg caggtctcaa actcctaggc tcaagcgatc ctctcgcctt ggcctcccaa 141300
agtgctagga ttacaggcgc acaccattgc acttggccct tttctttaca gtgtaataat 141360
atttaagttg ttgaattttt caagattgtt tccttcacta gactgtaagt tgtatagagg 141420
gtagaggatt gtttcgttct ctgttatatt tattggactt aattctattt aagtaagttg 141480
tatttaagta ctgacttaga tgtatttgtt gggtttagta tccagttctg aaccaagcaa 141540
tcagtgtttc ttgaattaat agattcctcc catttgctga tactccattc tatattaaca 141600
tcacattcca cttgcactat tgcaatatcc atcaaattaa tctccagtct cctctaattg 141660

gccttatata gtacttatac agtacatggt taaagtgttt tttttaacct gccagtcccc 141720
aggtcaagga tgcatgctat taatagttct catttcttaa ctgcatcaaa tctcaaacta 141780
tttctgtata acatctaagc aactttgcct tatcacccca tcaacaatca aactaggttt 141840
cctcagtgtc cccacacatg aacactaaca actctttcag tgctattaat cctcacctgt 141900
agtgtgagag cccctccttt ctcattgcta ttcattcata acggtgtatg aatgtgggcc 141960
tgacagctat tgtggcagga gggcattgtg ccaggaactc tcctcattct gtgtgctaac 142020
aatatgatct tggtcaattc agcctctttt atttttatct gtaaagtgga atactgttga 142080
tacttcacag caatgttgta gggatttcat tcagtaatcc acattaggca tctgtgtagc 142140
accataccta gtgcatggtg agttcagtaa atgctagttg tttttgctca ttgttcaaga 142200
cccagttcca gtcttccatc tccagaaggc tttcagcttt ttctcagatc ctgcctacca 142260
aggcttcaga gccttggtat gggggaacta aaggtggttc ttgcggagtg ttgcaaaaag 142320
cttccaagga tttatccttg tgttaacacg gtaggtctta agtgagaaac agcatataga 142380
gtttagtgga aagaagatga aatgggagtc aggagatttg ggagttagcc cttgctggac 142440
tcctaacttt ctgaccctga ccctagtcca cgcaaatcac tttacccatc tggccttcag 142500
atttatctgt aaaacgagta cattaaagtg tatagattct aatgattctt tctagccctg 142560
ctaagtactc agtatttaaa tgatgatcaa aaaacagtga caaaaataca gcatgacatg 142620
gtttctctgg gtcttttcct tagacacctg aatctgaata ctcttaaccc ttaagtatag 142680
agaacaacac aaggttctta ggaaagagat acactaacag ccctgcagtg tttcaccatg 142740
gagtgcaggc cagactttaa attatttaa gaataaggtt tattgtctct tctttcctaa 142800
tggggctaca ctttaagcca tgtatgcaga cttaagatgt attacaagcc tttgatttac 142860
ttggtaaagt tatgtgtatt ctcttggggg gataagtagt gagagccatg agttcctgtt 142920
gcttttgcaa aggactttaa tcatcatgtc atctttgtct ctaggatcca aaccaagccg 142980
atgaagaagc aatgacacag atcatccgag tgtcctaacc ccacgccatg tgatggagct 143040
gatcaaggtc atgtttctca ctgttccagg aaattgatca actcttccaa tgggacattg 143100
atgatcacat tctgcccttt actacaggac agaaaccact tagttttaa taagtggctc 143160
agtattacaa ttgcagcgat gcctggcaaa ttgaagttgc aagcctttgt cttactcttt 143220
cagtcaggac ctatttcaga ctgttgatga cattgacatt tcatggattc ggatgatgca 143280
aggagacaca tgccacccca gcagtacaca aagcacttac cttgactggt gaagtcagcc 143340
agccatctca gcagggaaga acaaccttct caaccaaaac tgcaatcagg aaagcagcag 143400
cccactcctt cccatggaat ctagacagca tttatccctc tggtggggga atctcacact 143460
gactaactga atggacgctt tgtattcaga gatggcttcc aggcaaggaa gttctatctt 143520
gtgatacgga aacaataaat tcctgagata cattcttcca atctgtggta ataataagaa 143580
ttcctctctg cccagatggt aggttgatat ttctggactc tagccaagaa aaagctaatt 143640
ctggggatag aatgataaaa gactcaagca ctaaaaatat acattgccga atctcttttt 143700
ctagctttga aaagttgtgg cctgcttgtc cctctgttga ctggtcatct ggaccatcgt 143760
acttgctgtg gctacttcta agacaatgta gagggttatt aaaccttgaa actgcctttc 143820
ctaagtagag aacaagacta ttcaacaact tctttgctga agcactgagg agatttgtaa 143880
tactcctaaa ggaagggcca aactagagat tttcaatcat agactttgtg acagcatttg 143940
gggaactaaa agattcatgt gtttcagcct agtgggagag agtgggggag aggaagagag 144000
agagagagca tgtatacccg tatgttatca tagagcacga ttctccagtg gatggatacc 144060
tggaatggat cattaagatg aagagagtaa ttcacattta ctctagaacc tttaacaagc 144120
actgaaagga agaagcctga gatttgatcc ttgacaattt ctggaaagca ctggtcagtc 144180
acactgtcct ggacagagtc caagttaccc actaaagctt gaggtggatg ttggcttcac 144240
tcctgcagca caatgctggc cctagaaagc gagcattttc attcttccca tggcagctga 144300
ttctttggtg ccagttttca tgttttctcc ataggccttg tgcagaaagg ttttctcatt 144360
gcatccatac tgtgagaata aactgcagac tgaaagaaac atgcctgcag ggtcaggaac 144420
tgggccactg ttcccagaac gggttgtgcc tcagaaatct atttctcttt tagatgttga 144480
accctgagag aactaagatg atatttcaga agagttggct gccttctctg gaaacaagga 144540
aaacccaata attccgagga acattggggg ttaaatacca agaataaaaa ttggttcttc 144600
tttgacttca gcttaactgt attaagacag aaattaagcc ctctaaaaac accacaaaga 144660
gagatgattg taatgataga aatagaggta cagagctatg caaaggaaac aggaagtgaa 144720
atattcctag tcccagggat ctggtaatcg ctcctggctt ccagatgtca aaggactgat 144780
cctttggtaa gctcactaga aacttctagc tctacaagag tttgggatat taatgttatt 144840
cagtaagtcc caagtttttc agagaataga ttactaacaa tgaggaattt atattccttg 144900
gttaatttag gagtctaaga tgcagagttc agaaagaaat tactcagacc taactttgag 144960
tgcttaagct gccaacagtt agaagatgct atttatttgt gtctgtaagt ttgtacatag 145020
taatgccagc cttgttgctg aatttttttat ttgggggggag atgactttga attttgtttg 145080
aaatgcttca gttgtcattt tgtcattgca tttcaaatag ctcatgaccc ttttcttgtg 145140
gtcactttgg cacaccatag tagcccacaa agtgggggca gggtattgac atttggattt 145200
tttctttgat actagttctt ttattcattt ttatttgtga ctgtagtgat aactttacag 145260
atggagaaag agtgaatgga tgaatgaata attggtttaa tgcctagtta tgcaacttga 145320
gtgctttttt ttttttttgc aggataattt taagtgtata tattttaact gcactggtac 145380
attgaacatg tcagtgtcga tgccactgga ccaacagagc attttgtggc tatagggtgc 145440
ctgataataa tgtcttgatt tttctttggg attcaactat atcgaaggtt tttccccag 145500
cagtatgggg gcgtacaggt gatcgatcat taatgtcatt gcaattgtta ttttttaaaa 145560
taaatttata aaaataaccg aaaagtaatg tgacttttga ggaatctgca actcctgggt 145620
tctagtttgt gtttccagtg ttgaaatttt gatctccccc gacaagactt gtctgcatgg 145680
acggtgtctc tgtaaacagt atcaaacttg taatgtctga gcctcttagc tttatctccc 145740

cttaatttct tccctttgg cccttccacc ctgttgagga gatttttct gtcacctgca 145800
ggctgatcat acatttgatg ctactactga aagtgtttat caaaatgtga tgaagtaatt 145860
ccatgaggaa aattagccgt tatcacaaaa acagccttaa gtattgtaga atttcaggta 145920
gtgaagatgt actatttacg ttttgttaga ttttgttttg gcagaagacc aaaacaaaag 145980
tacttttctg attgttaaaa atccacagca tgctcacctt gttactgttt taccttacgg 146040
tcgctgggaa tctaagcaac aaagactaga agcctccgat atgccattat caacacacaa 146100
gagacaaaca gcccgaggaa gcactcaatg atgagagcag tagacctgcc ctggcagatg 146160
agagaggaga aactctccac aatgaaggaa aagcactgac agtatttgat agctttagtc 146220
aaactgtgct tgagtttggc ttagatttat gccagtggaa cctgtcctta ccaaattcag 146280
agatgaccca agattctact ctgtggtatg agggaaagac ctctcgatat ttatctcaca 146340
ccaacggctt tatcgtagga gcgtcttcgc ctcccccgtt tccagtagaa aagacagctt 146400
tgctcctttg aaagcgcaga ccgccgcacc tccagcccct tctccccggg gaagtaggcc 146460
ccgctaagaa tgtgggaagg tggtggggcg gcgactgaag tcgcttccga ttggcgttgt 146520
cccaaggaag cctgcgcgga ttgatcggcg gcaggcctcc aatagagcct gctaggcgga 146580
ttggctgcta cgcggctggg ccctgtttcc ggtacctagg cgggcagcca tggtgaccgg 146640
cgagcggcat gcgacgccgc ctctgtggcc tgtggaggcc cgcttggcgg cgctgcttcc 146700
cgacctactg gtctttcgga agcctcgggg atgggaaccc gagctcgcca cggcccaggg 146760
cgtcctccta ggcgtccatg tgacgggtga gggcgacggc cggcacttgc acttaagtct 146820
cctggcctgc gggagaggcg gccgttgggt ctaagcccct ggaggcctcg acggttacag 146880
gcctagcctc ccgcgagcta aggcacagtt taacttcgtg ctgcggcttc cttaggaaac 146940
tttgagtatc ttcgttttag cgtgggagga catcttttgg gatgaaccgg ctcagtcctt 147000
gagctcaccc caaagatgat gaaattgaaa ctcagaggaa aggattttta caggaccacg 147060
ccccgggctt tgaacccgtt tttcccaacc ccgagcattt tctattaagc gttctgtttc 147120
aattatttta ttcgttcagt taattcgttc ttggcgtcat aagtatatgc ccgccgttgt 147180
tctggccgta gctatctagc agccactccg cgagtcgttc atttaacaaa tacttactct 147240
gtgtcaggga tatgaagatg ggtaatacca ggtgcctgtc ctcactgtgt gagtggttct 147300
ctagccagac atgaggaggg atcctattgt ttcccatagc taggcagcct aagagagtag 147360
gggaaagagc tggctccaga tgaaaagggc accatctcca gctcttggaa gcagagaggg 147420
tggtcctttg gattcccagt ggcagcagca accaacctgg cccttagtag tttctaagtt 147480
acaccatgtt aatggataaa ggaattactc agcttgaagg gatctgtttc ctttacactg 147540
gcctgatgtg tggggagaaa ggggccaaaa agtttaggat ttggagttaa catcgtaatt 147600
tctgctttgt tggtcagggt ttacagcatt aatggacagg ttcaccctga cctacaagtc 147660
ggaacgtgac atggacaaac tggcccatat cttcagttat tacattagtg acatcgtgga 147720
gcgtgagtga tcattgtagg gtaacaaggt gtggtgctgg gctcctgggg gtttataaaa 147780
gaaggggggcc agaagtactt taaaacaggt accaaagggt cattccttta gcatcattca 147840
tctttggttt cttcaagttg ccactgaaaa gctagacctt tgcctattat ctgctaatct 147900
acccagtctc acattctatt gactcattgt tcaaaggggg ggcaggagga gctaatttcc 147960
tttgcacatt tgtattttat ttcaaaataa agtattctct tctaacaata acgtatctca 148020
agtgtgtatt cagacaaaat ttataaaaca tctttttatt attatatttt gatcctgtga 148080
ggaaggaata ggtgttttct tattttctgc catgtattaa gcttttagat atttgccaga 148140
tatccagtat ctggaaaaaa ctcatttatg tagtacccat gttttgagta cctaccctgt 148200
gacatggact gtaataggtg caggcagggc aagaacccac tcttgaactt tttagttagg 148260
cctacccaac agaaattact ctgaccttat acctttttagt acttacgtaa cattctcatc 148320
ctttactgac agtgccctgt atgcttccgt ccatcattct gagattcacc agaataatta 148380
ctttgaggca tctccgttaa gaatttgatt atttgactta cctcttatcc ttaaggaaca 148440
catggaaggt cgtttgcttt ttcttatagg tttggatgaa ggggaagata aacattctat 148500
atcgtgtatg tactctaata ccagcaactt ctgggtacta gaactacagg ggaaagtaag 148560
acagagtacc ctcgtggagt ttccatttta gtgggacaga caataaacac aataattgta 148620
gcttatatat tctatcaagg aaataaacat agtatagtgg taaaaaaaaa acacaaaaaa 148680
taattttagg gtaggggagt atatgagaca gggtggtcat aggctcctct gaggaggtat 148740
tatttaagct gacacttgaa ggatgagggg aacagcttgt gaagaactag gggtaaagca 148800
tttcagacag aataccaagt gcaaaggtcc tgagacagga gaaagctcgg catgctctag 148860
gagctaaaag aaggccagtg caggccaaaa cgtagctcgc agggtgaaga gtggtttgag 148920
gcaaggttgg gggatggtag ctatgagacc accacgctct gtagtccata gtgaagagtt 148980
ggaattatat atttctgtat aaaggaaaac tgtggaaagg tctagcaggg gagtaatatg 149040
atctgattaa cactttaaag ctgattttgg ctaccttgtg gagattgaat gctggtggaa 149100
agtgaattta agaatagaag ctggaagagg caattgtcct ggaaagatgt tggagatttg 149160
gtctagagca gtggttctca acctcagctg tggttgcctg aggagctttt taattgtttt 149220
ttctttttttc ttttttttttt tttgtaagag actggggtct cagtatgttg ccaagtttgt 149280
cttgaactct agagcttaaa agattcttct gcctcaacct ctcaaatagc taggactgca 149340
ggtaccatac caccttgtct aacaaaaaat cttaatgcct aagcttcacc ccaggccatt 149400
taaatcggac tttcttaagg ttggcccagg aataagacct tttaaagttt cataggcaat 149460
tccaatgtgc ggtcaagact gaagattgtt ggtgtagagg tatggcaggg gagctgtgtg 149520
gggtagatta acctgaaata tattttgcag gttcaacaga caggagttgc taatacgttg 149580
aatttcagtg ggaagtggtg agaaaaagga ctcagttttt tggctttcat aaatgaattg 149640
atcgtgtcat ttaccaagac aggaaagact gaacattgag aaagaaaatc aagagttctg 149700
ttttgagtat gttgagtttg agatgccaat aagtcattca agtggagaat gactccattc 149760
aagtggagaa tccagctatg attgagcctg gagctcagag aagagatccc tgttagagat 149820

seqlist.txt

gaaaatgtga gttgatggca taaagtggga cttaaagtta agaaccgatt gagttcatgt 149880
tgggagagca taaataaaga gaaagagcct ttggctgagg cttgaggaac tccaggggag 149940
gattatgata agggagaaag aacctgaaaa agagactaca aacagccagt gaggtaggat 150000
attgtggtgt tcctgaagcc aaaggagagg tagtgtctct agaagaaagc tgcagctagc 150060
tgggttgaaa atgacagctg tcaagtacag tgaggtcaga gaggtattga atttagcaag 150120
attaatgctg ttgatgacct tgataatttg aagtggtgga ggtagaagtc agagtggagt 150180
aagctgagaa aaagaatgac agagaaaaca tttaagagga agagtaaatg ggagatgagg 150240
aaaatatata tagccaactt ttttgagatt tgggggtttt gtttgttgtg aatgtagcag 150300
gaaaaaaaat ggagctaata ggcagaagat aaggtagaac caagaatatg tgggttattt 150360
ttgtgtgttt tggttttgtt ttttaagcta ttgatgagaa tatttcagta gagagattag 150420
gaacggtgtg aagttcttga gaaggtaaaa ggggataaga ttcctatcac aaatggggtg 150480
gctttgaaga gagcaggaat tcttccattt tagaaacgat gtatgtaggt gcagatagat 150540
ttggggagaa aatgaaaaga aggaagaagg agcctgagtc ttggagtgag caaatggaca 150600
agaatgatgt caggataaac tcagtaggcc attcttttga ccatatatga ttctgccctg 150660
atctggttta tatctgattt tgactcattt tcctctctct tccttacttg atttcagatg 150720
ttctctgttt tggaggggat atcctaaata tcacaggtat ttttttagtt tttctgaata 150780
cttaaaagac tgagtgagga ggactatatt taggtggaat tcagcatatt ggtttattca 150840
gcattgtttg attaataggt actggaccct ggggatacaa agatgaggaa gacatagtct 150900
gtgcctcaaa ggatccccca gtctaatgga aaagctttgc ccaaattaaa ctctcacatg 150960
ctttgcattt ttgtttagat tgaaggacag caaaataagt gccaataaag cgttcttgag 151020
aaaactaatg agaaatttgg tcattaatag cagaagctaa gcatgagatg gggaggagtt 151080
aagcatgtcc tatctggaga actcaggatc actaacagct gtatgccccg gagttggcct 151140
gtcttcttat ttaaacataa taaaaccagc catcaaatta gatatgaact tgaacccaca 151200
ttttatgaat cttttgctag tacctctcct cctctgttag tatactggtg gaaggaagat 151260
taccaaaaat atccttagga tcatttaaac ttctacctag ttacgttttt actgaatgat 151320
tttgaggatc tgaagcagta ttttaaccta gcataatgta tacagccaag aaaccttgcc 151380
tgataactta cttgatatcc acactgggtc aagttgatct tctgcattac tgggactttg 151440
ccctggacca agtaagtcta gatatttggt ccccatcagc ctatcctgtg tgtctgcagg 151500
gaacatgctc ctggcactct ggagagtaga acaaaatcaa ctgagtgaca tcattacctt 151560
ggtggcaaaa tgcagtctgg agatacagga gaaatttggg atctatcata ccagggaagg 151620
ccaggacctg cagttaaaga taggtagtac ctcctaaaag agtgatccag ttgggcaagg 151680
gggaacccac tataaaaacc tcaaaagata aatgataaac tgggaaaaaa tgtttgcaat 151740
tcatatagac aaagggtgaa ttgctctact agggaaagag cacttagaaa tcaagaaaac 151800
aatagtactc ttaagagaaa aattggacaa aggacatgag taaattgtat atagacaagg 151860
aaatgcatgt cttttaacac gtaaaaagat gatcaacatt cataataaga aaaatgccaa 151920
ttggaagtac actgactacc tgtcttacct atagataggc aaaacttcag atgctggaca 151980
atgtactctt tggtgagtct gaggaatgag ctttttctta ctgtgagtga acaacggtat 152040
aaggtgattt ggcaatcttt atttatttct attgtctatt gtatttttta tgtcaacaaa 152100
aactaaacca tataaaaata tatattaaaa agtcttgttt tcacttatat accatctata 152160
ctatttactc ttacaagtgc atttattcct taacctagca atccttctgg acatctatag 152220
gtatacgttc acacatctga aatgttgcat gtgcaaggtt attgattgta atatggtttg 152280
taattttaaa acattgaaaa ctatttatag gagactggtt aagtaaataa tatgtatact 152340
caataagatt acctgcaact taaaaaaaat aagatgtctt gatatggcag tatctccaag 152400
atacagttaa gtgaaaaaaa gtaagataca aaacagcatg tttagtatgc taccatttgt 152460
gtaaggagga aaataagaat ttttcttatt tgtttatatc ttttttttct tttgagatgg 152520
agtcttgctc tgtcacccag gctggagtgc agtggcgcca tctcagctca ctgcaagctc 152580
cacctcccgg gatcacacca ttctcctgcc tcagcctcct actgagtagc tgggactaca 152640
ggagcctgcc accacgcctg gctaattttt ttgtattttt agtagagaca gggtttcacc 152700
gtgttagcca ggatgttctc gatctcctga cctcgtgttc cgcccgcctc ggcctcccaa 152760
agtgctggaa ttacagactt gagccaccgc acctggccta tttgtttata tcttgtataa 152820
agaaacactg gaaaaaatat ataagaaact aataaaatta ctaatatcag gaaaatagta 152880
aagatggtca tgtaggtaga agcaagattt taaaatacat attctttcat atagtttagt 152940
ttttgaacta tgttattgct tgacagaatc aaaaatataa tacaatataa taaaaattaa 153000
aaagctacat acaggggcca aagtttcacc aatggcagag tcaggattgg aggcgaagct 153060
caatatacaa agctccttca caagggttca gaaaactcct caagggcaaa agttggctcc 153120
agctattctt ttatgttttg aggagcagtg gtaaaggatt atattctgtc ttatatggca 153180
tctcttttgt cctgccgtct tttttgtttc ttttggtttt tgttgtatta aggataattg 153240
atactataca ttggcatatt tatacacttt tgaaaccatc accacaataa agatagtgaa 153300
catacttatc actcaaaaag tctcctcgtg ccccttttgta cattcttcca ctactctcct 153360
tcaccatctc cagacagaca aaatgtccat ctccaggtgt attatataag agaaggaaat 153420
ctgggggaag aatttttttt ttttttttct gagatggagt ctcactctgt tgcccaggct 153480
ggcatgcagt ggcacggtct tggctcactg caacctccgc ctccagggtt caagcaattc 153540
ttctgcctaa gcctcctgag tagctgggat tataggtgtg caccaccacg cctggctaat 153600
ttttttttct ttttttgtat ttttagtaga gacagggttt caccatgttg gtcaggctag 153660
tctcgagttc ccaacctcag gtcatctgcc cgtctcagcc tcccaaagtg ctgggattac 153720
aggcgtgagc caccgtgcct ggccgtaagg tattattttt aaaggttagc tcacctaaga 153780
cttccgcagc tgagggcagt aacaagatag gcatgatgca cagagccatg tggggattcc 153840
agacccctcc tgttgcatag tttcccagtt gaatttgact cttctccatt tatctcattt 153900

ttttctggat aggtctacct gcaagtcgga tttcccaggt tattgttgga gatgagcggc 153960
agcaatacct cttggtgatt gggcaggttg tagtgatgtc cagttagctc agcgtttggc 154020
tcaggcgaat gaaattgtcc tatcctggaa ctgctggatg ctttgcaagc agtatatgtt 154080
tgaagtggca atcatgaggg aggatgaagc tgtgaaggta ggaggctagc ttcctgtact 154140
gccattctga aaaggccttc ctagtacaca gcgcaatgct ctggtagtgt tcacatattg 154200
cctggccaaa ccaatgacca ttggaactca atttaggagg gaggctggga atattctcct 154260
atgaagatag atgaggtaga acagtgaggc tgaggagata aaaggcaaac aagggcaata 154320
gaatcctcag cctttcttgt gtgggggcac agaattaaac agtttccttt ctgtagttaa 154380
gagatatgtg gatc 154394

<210> 18
<211> 2316
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (66)...(710)
<223> Human transcription factor-like 4 (TCFL4) mRNA
coding region

<400> 18
cgccacccgc ttcctcgccg caggggccc gcccgctggc ccgtttccgg tccggtgggt 60
acaag atg acg gag ccg ggc gcc tct ccc gag gac cct tgg gtc aag gtg 110
Met Thr Glu Pro Gly Ala Ser Pro Glu Asp Pro Trp Val Lys Val
1 5 10 15

gag tat gcc tac agc gac aac agc ctg gac ccc gat gat gag gac agt 158
Glu Tyr Ala Tyr Ser Asp Asn Ser Leu Asp Pro Asp Asp Glu Asp Ser
20 25 30

gat tac cac cag gag gcc tac aag gag tcc tac aaa gac cgg cgg cgg 206
Asp Tyr His Gln Glu Ala Tyr Lys Glu Ser Tyr Lys Asp Arg Arg Arg
35 40 45

cgc gca cac act cag gct gag cag aag agg agg gac gcc atc aag aga 254
Arg Ala His Thr Gln Ala Glu Gln Lys Arg Arg Asp Ala Ile Lys Arg
50 55 60

ggc tat gat gac ctt cag acc atc gtc ccc act tgc cag cag cag gac 302
Gly Tyr Asp Asp Leu Gln Thr Ile Val Pro Thr Cys Gln Gln Gln Asp
65 70 75

ttc tcc att ggc tcc caa aag ctc agc aaa gcc atc gtt cta caa aag 350
Phe Ser Ile Gly Ser Gln Lys Leu Ser Lys Ala Ile Val Leu Gln Lys
80 85 90 95

acc att gac tac att cag ttt ttg cac aag gag aag aaa aag cag gag 398
Thr Ile Asp Tyr Ile Gln Phe Leu His Lys Glu Lys Lys Lys Gln Glu
100 105 110

gag gag gtg tcc acg tta cgc aag gat gtc acc gcc cta aag atc atg 446
Glu Glu Val Ser Thr Leu Arg Lys Asp Val Thr Ala Leu Lys Ile Met
115 120 125

aaa gtg aac tat gag cag att gtg aag gca cac cag gac aac ccc cat 494
Lys Val Asn Tyr Glu Gln Ile Val Lys Ala His Gln Asp Asn Pro His
130 135 140

gaa ggg gag gac cag gtc tct gac cag gtc aag ttc aac gtg ttt caa 542
Glu Gly Glu Asp Gln Val Ser Asp Gln Val Lys Phe Asn Val Phe Gln
145 150 155

ggc atc atg gat tcc ctg ttc cag tcc ttc aat gcc tcc atc tca gtg 590
Gly Ile Met Asp Ser Leu Phe Gln Ser Phe Asn Ala Ser Ile Ser Val
160 165 170 175

```
gcc agc ttc cag gag ctg tca gcg tgt gtc ttc agc tgg atc gag gag   638
Ala Ser Phe Gln Glu Leu Ser Ala Cys Val Phe Ser Trp Ile Glu Glu
                180                 185                 190

cac tgt aag cct cag acc ctg cgg gag att gtg att ggc gtc ctg cac   686
His Cys Lys Pro Gln Thr Leu Arg Glu Ile Val Ile Gly Val Leu His
            195                 200                 205

caa ttg aaa aac cag ctt tac tga ccggttcttg gaaacctgga gaacagccaa  740
Gln Leu Lys Asn Gln Leu Tyr  *
        210

caagaggccc ttgaatctct acgtggccac tgaactgctg ggcccgggag actggactac 800
aacacctcac actggtcagc tggtttctac ttggtgtttg gtttttccca gccccatttt 860
atcttcagcg gagccgcggt gtttgttttg tgaaagcttc tgattaattt attatattga 920
cgataaaact caaacctacc cagccttccc cccactccat ggaagtcctt gggatgggcg 980
tctgctctgg acaccccaaa gagctcctgc cctctcagcc ctttattcaa gcctcagatt 1040
tctgctcatg atctacatag atttggaaac tgttttcctc tgttttggtc tcttgggcaa 1100
catttttggc ccaagtttgg gcaacatttg gcccaagttt gggcattttg gcagtagctg 1160
tatgggagaa aaagagtaag aggaaatatt cccacagcca tgaagggtga aagggcacct 1220
tgtgcctaga ctagggctgc ctggtcagtc ccaggtgagg ccaagggctt tctggccatc 1280
tcagggaggg gccaccaggt tcctcccctc accccatatt ccatcacctt cctcctctgc 1340
tctgggtggt aagggaagcc ctcccggttc ccacaggcta tgatgctgca tggcagaggc 1400
aggtataaca cagcactaca tattggaaat tttttatttt tctaaatacc aatgcagttt 1460
tgctacggtt acaattttga aatattaact gagcctcaaa atcacccttt ctgtcaagca 1520
tatcttggcc tctcccatgt ctcagtgttg cctgcatttc tcccaggact tgggggtggg 1580
gtgaaaagcg tacaaaagat acttaaaagg gctcctgggg tacacaagcc cagcaggtcc 1640
tgagtgaagc cgtgggccct ccaaatgctc gttttatagc aacctctctc taccctagtt 1700
ctccaaattc acttctgcct tcctcaggtt tgatatctgg caggtttgac tatccagagg 1760
aaattaaata tttttatata aaattaaatt ataataaata ttgccaaatg ctttccttta 1820
gcattgttcc aagtctaaat gttaacctca agctactgca atttagacaa tgaaatgggc 1880
tgggtctacc cccagccacc agccctcatc ctctctaccc agtgctctgg tttatgcttg 1940
tctcctgact gctctgctta aaggtgaaag tagcaggaac aacaacaaaa gccaaccaaa 2000
aacaaggtag ccagtgcaag acatctcact cttctgacat cctgcagtcc ccaccagtcc 2060
tgaccgtggg cccctcaggg gtctgggagt gtgacgttgt aatcttcatc cgtctctatc 2120
ccaacttcct cctgtgagac agggagacaa gtgaatgaga tgtcaccagg ataagaccac 2180
agggaagcaa agaaggaaga gagctccact tacaaagaac tgcttcttgc tcttggggta 2240
tccttcaagt attgcatcag acagctctgt agcctgacaa gaaataaaac cacccgtttt 2300
cagatgggca aaaaaa                                                 2316

<210> 19
<211> 2964
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (93)...(2555)
<223> Human mitogen-activated protein kinase kinase
      kinase kinase 2 (MAP4K2) mRNA coding region

<400> 19
cagagccacg ggcgcccgcc ccgccccgcg ccgccccgcg ccggctccgc agctcgcgcc 60
cgcccgcctg ccggcccgcc cggcgccggg cc atg gcg ctg ctg cgg gat gtg   113
                                    Met Ala Leu Leu Arg Asp Val
                                     1               5

tcg ctg cag gac ccg cgg gac cgc ttc gag ctg ctg cag cgc gtg ggg   161
Ser Leu Gln Asp Pro Arg Asp Arg Phe Glu Leu Leu Gln Arg Val Gly
         10                  15                  20

gcc ggg acc tat ggc gac gtc tac aag gcc cgc gac acg gtc acg tcc   209
Ala Gly Thr Tyr Gly Asp Val Tyr Lys Ala Arg Asp Thr Val Thr Ser
     25                  30                  35

gaa ctg gcc gcc gtg aag ata gtc aag cta gac cca ggg gac gac atc   257
Glu Leu Ala Ala Val Lys Ile Val Lys Leu Asp Pro Gly Asp Asp Ile
```

40 45 50 55

agc tcc ctc cag cag gaa atc acc atc ctg cgt gag tgc cgc cac ccc 305
Ser Ser Leu Gln Gln Glu Ile Thr Ile Leu Arg Glu Cys Arg His Pro
60 65 70

aat gtg gtg gcc tac att ggc agc tac ctc agg aat gac cgc ttg tgg 353
Asn Val Val Ala Tyr Ile Gly Ser Tyr Leu Arg Asn Asp Arg Leu Trp
75 80 85

atc tgc atg gag ttc tgc gga ggg ggc tcc ctg cag gag att tac cat 401
Ile Cys Met Glu Phe Cys Gly Gly Gly Ser Leu Gln Glu Ile Tyr His
90 95 100

gcc act ggg ccc ctg gag gag cgg cag att gcc tac gtc tgc cga gag 449
Ala Thr Gly Pro Leu Glu Glu Arg Gln Ile Ala Tyr Val Cys Arg Glu
105 110 115

gca ctg aag ggg ctc cac cac ctg cat tct cag ggg aag atc cac aga 497
Ala Leu Lys Gly Leu His His Leu His Ser Gln Gly Lys Ile His Arg
120 125 130 135

gac atc aag gga gcc aac ctt ctc ctc act ctc cag gga gat gtc aaa 545
Asp Ile Lys Gly Ala Asn Leu Leu Leu Thr Leu Gln Gly Asp Val Lys
140 145 150

ctg gct gac ttt ggg gtg tca ggc gag ctg aca gcg tct gtg gcc aag 593
Leu Ala Asp Phe Gly Val Ser Gly Glu Leu Thr Ala Ser Val Ala Lys
155 160 165

agg agg tct ttc att ggg act ccc tac tgg atg gct ccc gag gtg gct 641
Arg Arg Ser Phe Ile Gly Thr Pro Tyr Trp Met Ala Pro Glu Val Ala
170 175 180

gct gtg gag cgc aaa ggt ggc tac aat gag cta tgt gac gtc tgg gcc 689
Ala Val Glu Arg Lys Gly Gly Tyr Asn Glu Leu Cys Asp Val Trp Ala
185 190 195

ctg ggc atc act gcc att gag ctg ggc gag ctg cag ccc cct ctg ttc 737
Leu Gly Ile Thr Ala Ile Glu Leu Gly Glu Leu Gln Pro Pro Leu Phe
200 205 210 215

cac ctg cac ccc atg agg gcc ctg atg ctc atg tcg aag agc agc ttc 785
His Leu His Pro Met Arg Ala Leu Met Leu Met Ser Lys Ser Ser Phe
220 225 230

cag ccg ccc aaa ctg aga gat aag act cgc tgg acc cag aat ttc cac 833
Gln Pro Pro Lys Leu Arg Asp Lys Thr Arg Trp Thr Gln Asn Phe His
235 240 245

cac ttt ctc aaa ctg gcc ctg acc aag aat cct aag aag agg ccg aca 881
His Phe Leu Lys Leu Ala Leu Thr Lys Asn Pro Lys Lys Arg Pro Thr
250 255 260

gca gag aag ctc ctg cag cac ccg ttc acg act cag cag ctc cct cgg 929
Ala Glu Lys Leu Leu Gln His Pro Phe Thr Thr Gln Gln Leu Pro Arg
265 270 275

gcc ctc ctc aca cag ctg ctg gac aaa gcc agt gac cct cat ctg ggg 977
Ala Leu Leu Thr Gln Leu Leu Asp Lys Ala Ser Asp Pro His Leu Gly
280 285 290 295

acc ccc tcc cct gag gac tgt gag ctg gag acc tat gac atg ttt cca 1025
Thr Pro Ser Pro Glu Asp Cys Glu Leu Glu Thr Tyr Asp Met Phe Pro
300 305 310

gac acc att cac tcc cgg ggg cag cac ggc cca gcc gag agg acc ccc 1073
Asp Thr Ile His Ser Arg Gly Gln His Gly Pro Ala Glu Arg Thr Pro

315 320 325

tcg gag atc cag ttt cac cag gtg aaa ttt ggc gcc cca cgc agg aag 1121
Ser Glu Ile Gln Phe His Gln Val Lys Phe Gly Ala Pro Arg Arg Lys
330 335 340

gaa act gac cca ctg aat gag ccg tgg gag gaa gag tgg aca cta ctg 1169
Glu Thr Asp Pro Leu Asn Glu Pro Trp Glu Glu Glu Trp Thr Leu Leu
345 350 355

gga aag gaa gag ttg agt ggg agc ctg ctg cag tcg gtc cag gag gcc 1217
Gly Lys Glu Glu Leu Ser Gly Ser Leu Leu Gln Ser Val Gln Glu Ala
360 365 370 375

ctg gag gaa agg agt ctg act att cgg tca gcc tca gaa ttc cag gag 1265
Leu Glu Glu Arg Ser Leu Thr Ile Arg Ser Ala Ser Glu Phe Gln Glu
380 385 390

ctg gac tcc cca gac gat acc atg gga acc atc aag cgg gcc ccg ttc 1313
Leu Asp Ser Pro Asp Asp Thr Met Gly Thr Ile Lys Arg Ala Pro Phe
395 400 405

cta ggg cca ctc ccc act gac cct cca gca gag gag cct ctg tcc agt 1361
Leu Gly Pro Leu Pro Thr Asp Pro Pro Ala Glu Glu Pro Leu Ser Ser
410 415 420

ccc cca gga acc ctg ccc cca cct cct tca ggc ccc aac agc tcc cca 1409
Pro Pro Gly Thr Leu Pro Pro Pro Pro Ser Gly Pro Asn Ser Ser Pro
425 430 435

ctg ctg ccc acg gcc tgg gcc acc atg aag cag cgg gag gat cct gag 1457
Leu Leu Pro Thr Ala Trp Ala Thr Met Lys Gln Arg Glu Asp Pro Glu
440 445 450 455

agg tca tcc tgc cac ggg ctc ccc cca act ccc aag gtg cat atg ggc 1505
Arg Ser Ser Cys His Gly Leu Pro Pro Thr Pro Lys Val His Met Gly
460 465 470

gcc tgc ttc tcc aag gtc ttc aat ggc tgc ccc ctg cgg atc cac gct 1553
Ala Cys Phe Ser Lys Val Phe Asn Gly Cys Pro Leu Arg Ile His Ala
475 480 485

gct gtc acc tgg att cac cct gtt act cgg gac cag ttc ctg gtg gta 1601
Ala Val Thr Trp Ile His Pro Val Thr Arg Asp Gln Phe Leu Val Val
490 495 500

ggg gcc gag gaa ggc atc tac aca ctc aac ctg cat gaa ctg cat gag 1649
Gly Ala Glu Glu Gly Ile Tyr Thr Leu Asn Leu His Glu Leu His Glu
505 510 515

gat acg ctg gag aag ctg att tca cat cgc tgc tcc tgg ctc tac tgc 1697
Asp Thr Leu Glu Lys Leu Ile Ser His Arg Cys Ser Trp Leu Tyr Cys
520 525 530 535

gtg aac aac gtg ctg ctg tca ctc tca ggg aaa tcc acg cac atc tgg 1745
Val Asn Asn Val Leu Leu Ser Leu Ser Gly Lys Ser Thr His Ile Trp
540 545 550

gcc cat gac ctc cca ggc ctg ttt gag cag cgg agg cta cag caa cag 1793
Ala His Asp Leu Pro Gly Leu Phe Glu Gln Arg Arg Leu Gln Gln Gln
555 560 565

gtt ccc ctc tcc atc ccc acc aac cgc ctc acc cag cgc atc atc ccc 1841
Val Pro Leu Ser Ile Pro Thr Asn Arg Leu Thr Gln Arg Ile Ile Pro
570 575 580

agg cgc ttt gct ctg tcc acc aag att cct gac acc aaa ggc tgc ttg 1889
Arg Arg Phe Ala Leu Ser Thr Lys Ile Pro Asp Thr Lys Gly Cys Leu

```
    585                 590                 595

cag tgt cgt gtg gtg cgg aac ccc tac acg ggt gcc acc ttc ctg ctg   1937
Gln Cys Arg Val Val Arg Asn Pro Tyr Thr Gly Ala Thr Phe Leu Leu
600                 605                 610                 615

gcc gcc ctg ccc acc agc ctg ctc ctg ctg cag tgg tat gag ccg ctg   1985
Ala Ala Leu Pro Thr Ser Leu Leu Leu Gln Trp Tyr Glu Pro Leu
                620                 625                 630

cag aag ttt ctg ctg ctg aag aac ttc tcc agc cct ctg ccc agc cca   2033
Gln Lys Phe Leu Leu Leu Lys Asn Phe Ser Ser Pro Leu Pro Ser Pro
            635                 640                 645

gct ggg atg ctg gag ccg ctg gtg ctg gat ggg aag gag ctg ccg cag   2081
Ala Gly Met Leu Glu Pro Leu Val Leu Asp Gly Lys Glu Leu Pro Gln
        650                 655                 660

gtg tgt gtt ggg gcc gag ggg cct gag ggg ccc ggc tgc cgc gtc ctg   2129
Val Cys Val Gly Ala Glu Gly Pro Glu Gly Pro Gly Cys Arg Val Leu
    665                 670                 675

ttc cat gtc ctg ccc ctg gag gct ggc ctg acg ccc gac atc ctc atc   2177
Phe His Val Leu Pro Leu Glu Ala Gly Leu Thr Pro Asp Ile Leu Ile
680                 685                 690                 695

cca cct gag ggg atc cca ggc tcg gcc cag cag gtg atc cag gtg gac   2225
Pro Pro Glu Gly Ile Pro Gly Ser Ala Gln Gln Val Ile Gln Val Asp
                700                 705                 710

agg gac aca atc cta gtc agc ttt gaa cgc tgt gtg agg att gtc aac   2273
Arg Asp Thr Ile Leu Val Ser Phe Glu Arg Cys Val Arg Ile Val Asn
            715                 720                 725

atg cag ggc gag ccc acg gcc aca ctg gca cct gag ctg acc ttt gat   2321
Met Gln Gly Glu Pro Thr Ala Thr Leu Ala Pro Glu Leu Thr Phe Asp
        730                 735                 740

ttc ccc atc gag act gtg gtg tgc ctg cag gac agt gtg ctg gcc ttc   2369
Phe Pro Ile Glu Thr Val Val Cys Leu Gln Asp Ser Val Leu Ala Phe
    745                 750                 755

tgg agc cat ggg atg caa ggc cga agc ctg gat acc aat gag gtg acc   2417
Trp Ser His Gly Met Gln Gly Arg Ser Leu Asp Thr Asn Glu Val Thr
760                 765                 770                 775

cag gag atc aca gat gaa aca agg atc ttc cga gtg ctt ggg gcc cac   2465
Gln Glu Ile Thr Asp Glu Thr Arg Ile Phe Arg Val Leu Gly Ala His
                780                 785                 790

aga gac atc atc ctg gag agc att ccc act gac aac cca gag gcg cac   2513
Arg Asp Ile Ile Leu Glu Ser Ile Pro Thr Asp Asn Pro Glu Ala His
            795                 800                 805

agc aac ctc tac atc ctc acg ggc cac cag agc acc tac taa           2555
Ser Asn Leu Tyr Ile Leu Thr Gly His Gln Ser Thr Tyr  *
        810                 815                 820

gagcagcggg cctgtccagg ggctccccgc cccaccccac gccttagctg caggcccttt 2615
tgggcaaagg ggcccatcct agaccagagg agcccaggcc ctggccctgc tggggctgaa 2675
ggtcagaagt aatcctgaga aatgtttcag gcctggggag ggaggggagc ccccgacgcc 2735
tctgcaataa ctggaccagg gggagctgct gtcactcccc catccccgag gcagcccagt 2795
ccctagtgcc caaggcaggg accctgggcc tgggccatcc attccatttt gttccacatt 2855
tcctttctac tctttctgcc aagagcctgc ccctgcattt gtcctgggaa acacggtatt 2915
taagagagaa ctatattggt attaaagctg gtttgtttta aaaaaaaaa              2964
```